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TERRA-COTTA AT THE PATERSON FIRE.

IN reviewing the results of the Paterson fire one cannot fail to notice the extent to which terra-cotta proved itself worthy of all that has been claimed for it as a fire-proofing material. In the City Hall, which was strictly fire-proof as far as relates to construction, the flat terra-cotta arch tiles were not materially damaged at all, though the heat in some of the rooms was so great that the glass in the side lights of the doors was melted and ran down in pools on the floor. The Second National Bank likewise was severely injured, but the damage was not due to any defect in the terra-cotta fire-proofing, notwithstanding that the terra-cotta was not applied in the most intelligent manner to the beams.

Without claiming that the fire-proofing systems which employ terra-cotta have arrived at perfection, and while admitting that every fire of this kind teaches us new lessons, it nevertheless must be conceded that terra-cotta itself is about as near being absolutely fire-proof as any material which is at present known to the building trades, and even in cases where it has not been applied in the most thorough manner it is still a very efficient fire retarder, and it is very rare indeed to hear of a terra-cotta floor arch of any description being crippled in a fire. The Paterson experience emphasizes the necessity for more care in constructing partitions. The practice which is sometimes followed of setting the partition blocks upon a plank upper floor is a bad one and should not be tolerated. The use of wooden door frames in terra-cotta partitions is also a source of weakness which can very easily be avoided. The ideal office building is one into which no particle of wood enters for construction or finish. A few years ago such a building would have been commercially an impossibility, but now there are various devices which answer every purpose of finish without employing a particle of exposed wood. The practice of bedding sleepers in concrete over the terra-cotta and having an upper and under floor nailed directly to these sleepers is, in the light of the Paterson experience, an unwise procedure, and a far better plan is to use deeper terra-cotta blocks, cover them with a slight layer of concrete and apply over the concrete some form of monolithic construction which is not based upon the employment of wood, either tiling, cement or one of the magnesia compounds which can now be obtained in the market.

EXPERIENCES are of value only as we are able to draw from them lessons which are available for future use, and while it can hardly be said that the Paterson fire brought out any decidedly new facts, it certainly emphasized and corroborated the lessons of the past. A number of the burned buildings employed architectural terra-cotta. Very few of the buildings were really fire-proof in any sense, but comparing the effects of the fire it will be noted that in those buildings which were faced with stone nearly all of the exterior work was practically ruined, while on the other hand the total amount of damage done to exterior terra-cotta by the entire conflagration was very slight. Both the Paterson Savings Institution and the Hamilton Club, which were the most conspicuous examples of the use of exterior terra-cotta, suffered little damage that cannot be removed with a scrubbing brush. If it is a commercial necessity that our buildings shall be as nearly as possible indestructible by fire, — and the experience of last year certainly shows the desirability of such a condition, — there is no material except terra-cotta which can be absolutely depended upon. A degree of heat which would rend granite into a thousand fragments and which would reduce lime or sandstone to the consistency of chalk, would have hardly more effect on terra-cotta than to discolor the surface and burn out some of the pointings. And there certainly is

no material except terra-cotta which would stand the combined action of fire and water. If terra-cotta were difficult of application, were expensive in first cost or of a nature which would not respond readily to the plastic feeling of the designer, there might be some excuse for using other material in its place, but where it meets so thoroughly the thought of the architect and answers so completely the exact requirements of the engineer, it is little wonder that in so few years it should have grown to be preëminently the material for the construction and embellishment of so many buildings.

THE urgent need in our great and glorious, but we fear still somewhat crude country, of some practical means for preventing the erection of architectural monstrosities is daily being emphasized by the many glaring, not to say brutal and wholly unnecessary offenses against good taste that are constantly being perpetrated from the Atlantic to the Pacific, from the Lakes to the Gulf.

It may be that the laws which formulate good taste and beauty cannot be so easily either codified or applied, and that much as we might wish to see an art censorship established which would make it impossible for even the most utilitarian Philistine to encumber the earth with an ugly building, we will not arrive at art achievements by municipal enactment, but will have to wait until the people are educated to a proper appreciation of the eternal fitness of art, and though the process will be a long one and the subjects difficult to handle, we cannot doubt that the result desired will come so long as we have faith in the virility of American art.

The buildings that offend most are, generally speaking, those devoted to commercial or business purposes, hotels and apartment or tenement houses. These buildings offend in every way possible — general outline, proportions of parts and details, materials and color. We have said the proportions offend, but take back that word; such buildings have no proportions. As a rule they are bald and dreary monotonous lumps of brick and stone and cast iron, without form and void. These buildings have not even the negative merit of being of ephemeral construction. They are well, too well, built and will probably cumber the earth for a century or more as monuments of the stupidity, cupidity and ignorance of those who in defiance of public and private opinion called into existence such misshapen and unlovely blots upon the fair name and fame of any city permitting their erection. Such buildings are a daily offense and irritation to those compelled to see them even from afar off. If such offenses were committed in private, if such buildings were put up in out-of-the-way places where none but their creators and accomplices were compelled to see them and suffer, there might be little cause for complaint. Unfortunately, important streets and conspicuous sites are almost exclusively selected to bear the brunt of this offending. In some cases buildings at least respectable even in their mediocrity have been removed to make room for malignant cases of commercialism run riot. In many instances those responsible for these architectural blunders are not confined to the class able to make the specious excuse that lack of means precludes the modest additional outlay necessary to raise their buildings from mere constructions to the plane of intelligent architecture. On the contrary, the worst and most persistent culprits are those who having ample means could at least put up, not monumental work, but inoffensive buildings temperately designed.

With regard to increased cost of buildings caused by reasonable architectural adornment, it has been calculated or rather demonstrated that five per cent added to cost of buildings will make the difference between a plain mill-like structure and an architectural creation.

It is not necessary in order to produce a pleasing design to restrict the height of buildings; still less is it necessary to confine the architect to any one style of architecture. Experiments as to proper limits of height and use of styles or style are to be desired. It is the function of art to solve just such problems. It is only the total disregard of style and want of invention or feeling to which objection is made.

Historical examples of street architecture, even where the façade has been a simple flat front, are numerous enough to convince one that the solution of such a problem in a satisfactory manner is entirely possible. And it is fair to say that modern examples of good and satisfying street architecture are by no means uncommon.

Is it not reasonable to believe that, even looking at the question of increased cost of architectural buildings from the financial point of view, at least a part of the interest on the money spent on adornment could be earned by the larger rents and more permanent tenants to be secured thereby?

THE fallacy of the very common idea that stone used in a building implies permanence and solidity has been well illustrated by Westminster Abbey. It is well known that the stone of which the western façade is constructed, while having all the appearance of solidity, has few of the elements of permanence and has required constant repairs almost from the time it was built. The stone employed is a material closely resembling the French Caen stone, but it is not identical therewith, and as early as 1713 Sir Christopher Wren reported that it was decayed four inches deep and was continually falling off in great scales. The amount of money which has been spent in the last two centuries to preserve this fabric is enough to have rebuilt the edifice several times over. Since 1888 an annual expenditure of over fifteen thousand dollars has been necessary, and there is no surety that this sum may not be required indefinitely. The acrid quality of the London atmosphere is sometimes charged with the responsibility for the decay of the stone, but it is doubtful whether the material would stand anywhere very much better than it does in Westminster. There are really very few natural stones which are suitable for securing permanence in building, and it may be stated as a general rule that any stone which is easy to work will decay readily. We have seen base courses of magnesian limestone which have been eaten away by the weather so that they looked like lump sugar which had been played on by a stream of hot water; and the experience of the last four centuries points pretty conclusively to burnt clay as almost the only building material which, when properly constructed and applied, can be absolutely depended upon.

The Business Side of an Architect's Office. I.

BY D. EVERETT WAID.

AN architect should be first of all an artist. If, however, his strength lies in his artistic perception alone, he is weak, and his designs will exist chiefly on paper. He must be a master builder, as his title implies; he must be an executor as well as a designer. Otherwise men without conception of the beautiful will continue to build ugly structures and perpetuate frozen discords instead of "frozen music."

Although the complex buildings of to-day are the product of many workers, all must be under the direction and control of the one mind which conceived the whole, if artistic results are to be achieved.

And yet this essential duty of the architect, that of general supervision, has its dangers, for under the stress of modern conditions the tendency is to divert the architect's artistic powers to the strictly utilitarian details of his practice. Instead of one building occupying several years, many buildings must be erected in one year. The multitude of details in one building multiplied by many buildings are beyond the capacity of one man, and the architect needs a simple system by which he can keep a finger on every part of his work and yet leave his mind free to give his best powers to the artistic development of his designs. The execution of even one building involves from first to last so many details that it is important so to organize one's office that bookkeeping, office records and the host of transactions required in letting contracts and superintending work shall be done by a machine. This machine should take care of the drudgery and do it so thoroughly and easily that its presence is hardly noticed. It should be so well oiled that no one apparently has anything to do with it except the office boy, and it should do its work so surely that drawings will be finished on time and never lost; that any letter or detail can be found at a moment's notice; that no mistake can occur in a certificate; that "work not according to contract" will be discovered in time; and that no bill for an extra will ever be presented without a written order.

It is easy for an architect to begin practice without any system and as business increases to adopt one device after another as need is felt. The result is that while work may be well done, yet complicated and burdensome methods of business have been developed. The point is that if a comprehensive scheme is adopted at the beginning of a small business it may be expanded to meet the wants of a large practice, and the inconvenience be avoided of making revolutionary changes at a later date.

The duties of architects lie in a more or less rigidly defined routine, from sketch designs to completed buildings. We may say that the functions of an architect's office from a business point of view are three and that these three functions represent three things which the architect as a skilled agent does for his clients: — first, designing buildings and making working drawings and specifications; second, taking estimates and letting contracts; third, securing proper execution of work and certifying when payments are due contractors.

It is proposed in these papers to consider the strictly business side of an architect's office and illustrate details of office practice involved in these various functions.

Beginning with the letter file — about the only essential piece of office furniture after the draughting table — it may be averred that an architect cannot be too punctilious in his correspondence. One may economize on rent, but he should not on postage. One's maxims should include not only "Keep engagements on time," but "Answer letters promptly." Starting with the time when one has been engaged to design a building and assuming that the circumstances have prevented the signing of a contract defining the architect's status and fees, he should write a letter to the owner mentioning in a gentle way the copy of his schedule of charges which he hands him "herewith" or referring to the recognized code of the Institute of Architects. After sketches have been submitted and approved it is well to write the owner apprising him of the understanding that he is now to proceed with working drawings on the basis of the last and approved set of sketches. Later on, particularly after working drawings are completed, a letter should be written to the owner every time that he gives instructions, placing them on record and doing it in such a way that the owner will be under no necessity of replying to the letter. When work is under contract the builder should receive frequent and full written warnings and instructions concerning work not properly executed, and all directions which involve extra work should state the fact in plain terms. In short, it is well to make the correspondence a very complete record of one's business, and very frequently such records are important not merely as safeguarding the client's interest but as affording protection to the architect's own good reputation.

Printed forms for extras and deductions are desirable for several reasons but are not essential. Whether forms similar to those to be illustrated in this series of articles are used, or letters, the architect should never fail to inform the owner of everything that is done, and obtain his consent before either extras or deductions are incurred. One prominent architect expressed himself on this subject thus: "I make it a point in my practice that not a dollar of bills for extras shall come in on any building without my client having had knowledge of it in advance, or without his having had an opportunity to know all about it."

In order to outline a scheme which has been found useful in conducting architects' offices we might glance at the correspondence file in an imaginary office. The first building in the office was numbered 1, and each succeeding commission as it came into the office was given the next higher number. On a shelf may be seen letter files marked on the backs with the names of the respective buildings and large numbers 1, 2, 3, 4, etc., and one file marked "Miscellaneous"; that is to say, there is one file for the correspondence of each building and a miscellaneous file to contain letters which do not relate to any particular building. There are no letter books, for letters are all written in duplicate or else copied on loose sheets, and copies of letters sent are filed with letters received, alphabetically and in order of date.

Drawings are filed away in large drawers or other chosen receptacles in similar order, all drawings for building No. 2 in drawer No. 2 and all for building No. 5 in

drawer No. 5, and so on. In other words each building has its individual number, and that number serves as a file number for the identification and orderly arrangement of all drawings, correspondence and records of whatsoever sort which have to do with that particular building.

We may assume that two trays have been purchased, with a supply of 3-inch by 5-inch blank index cards. One of these trays is used for addresses and the other for registry of drawings. When addresses are entered one card is taken for each name. If John Smith is the name of a fellow architect who has written about some draughtsman or a Beaux Arts Society dinner, his letter and reply will be found under "S" in the miscellaneous file. If, however, John Smith happens to be a contractor, correspondence with him is found under "S" in the file of the particular building with which he is concerned. If perchance John Smith is a client, then on his address card a note is made of his building, with record of its number. This card tray, therefore, serves not only as a list of addresses, but as an index giving the number of every building. (Fig. 1.)

The other one of the two card trays contains cards (all the cards may be standard ruled stock or specially

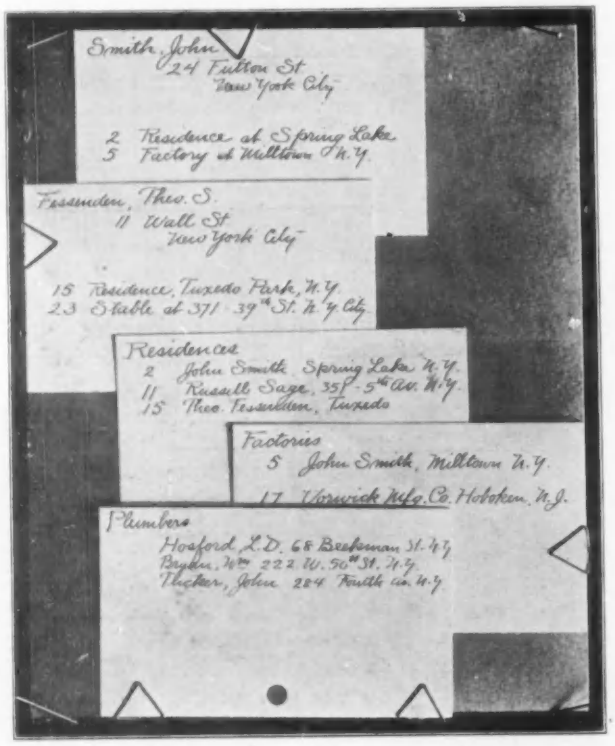


FIG. 1. CARD LIST OF ADDRESSES SHOWING MANNER OF ENTERING VARIOUS NAMES AND RECORDING BUILDINGS ERECTED FOR EACH CLIENT.

printed) for the registry of drawings. The exposed tabs of the guide cards show the name and number of all the buildings or commissions in connection with which the architect has made drawings or had correspondence. Each card back of the guide cards represents one drawing and shows the number and title, scale, date and author of its respective drawing. This idea was borrowed from Mr. Harold B. Magonigle, who gives each print of a given drawing a letter, and the card contains the names of those to whom the prints were issued, these entries being transcribed from the issue book. In my own experience I have found that drawings can be located in the issue book so easily that the transcription may be omitted and the registry card so simplified that each card will contain the record of ten drawings — five on each side.

FIG. 2. REGISTRY OF DRAWINGS.

(Fig. 2. Each guide card represents one building, or commission.

Behind each guide card are placed the cards which show the list of all drawings made for that particular building.

As the guide cards are placed in order of the building numbers, the tray contains a chronological list of all work turned out by an office.

The cards at the left [A] represent various drawings for building No. 2. The guide card for same building is shown at the top [B]. Each guide card has on it a brief record showing location of building, brief description, cost per cubic foot, etc.

The lower card above the open tray [C] shows a form with spaces to register ten drawings, five on each side of the same card. The second card in the series for building No. 88 would contain record of sheets Nos. 11, 12, 13, etc., and the third card, 21, 22, etc.

The scheme for numbering drawings shown by the lowest card at the left [D] classifies the drawings in a convenient way for reference; and for a large building each group may have a drawer by itself.)

Thus much has been said about three necessary things in an architect's office, namely, a list of addresses, a list of drawings, and files for correspondence, to suggest that giving each piece of work a number which becomes at once a file number for all letters, drawings, specifications and records is a simple framework idea which can be elaborated to any extent. Illustrations will be given in succeeding papers showing the practical application of this scheme.

Town Squares of North Italy. II.

BY WALTER H. KILHAM.

UNLIKE the busy little town square of Verona, described in our previous article, the Piazza Vittorio Emanuele at Bologna is large, spacious and never crowded. The herd of little tram cars finds abundant room to wait under the façade of the Palace of the Podestá, and the prancing statue of the popular king seems almost lonely in the center of the great expanse of pavement. Coming from Tuscany, where the cities are paved with large blocks of hard stone beautifully fitted together, the small round cobbles of Bologna seem to give a mean scale to the streets and squares, unworthy of the majestic buildings with which they are lined.

The public square of Bologna is in a sense disappointing. Although a group of the most important buildings in Italy fronts upon it, the unfinished state of two of them and the rather unmonumental appearance of the third tend to take away the impressiveness which really belongs to them, and impart a note of sadness to the somber red façades. The Palazzo Communale, shown in the center

PUBLIC SQUARE AT BOLOGNA, WITH PALAZZO COMMUNALE.

of the illustration, is a building which contains an unusual amount of interesting brick detail. The trims of the windows and arches of the façade are especially dignified and simple, and the interior court contains still more of the best class of detail. The building, which has been lately restored, dates from 1290. On the right in the illustration is the imposing but incomplete façade of the Palazzo del Podestá, the tall tower of which rises picturesquely above the roofs as seen from the narrow streets at the back. The juxtaposition of these two buildings is an interesting example of the use of the different branches of the municipal government described in the preceding article. This façade with its powerful two-storied arcade is the most monumental on the square. Directly opposite rises the great mass of S. Petronio, which is the largest church in the town and is internally one of the finest in Italy. The beautiful marble Tuscan-Gothic west front was never completed above the plinths, and the vast mass

APSE AND CLOISTERS OF S. DOMENICO, BOLOGNA.

of rough brickwork rises boldly above the piazza. The sides, however, were carried out complete in brick, and present some notable though not always praiseworthy details. Our photograph shows a typical aisle window with mullions and tracery in molded brickwork and an attractive and simple rose in the tympanum. The whole effect is simple, dignified and easily executed. In contrast, at the left of the picture there is shown one of the absurdities that sometimes appear even in the works of the best masters. Nothing could be more ridiculous than the conception of placing a delicately traceried window at the angle of a great building and bending back the archivolts on the faces of two right-angled walls. The

WINDOWS OF S. PETRONIO, BOLOGNA.

WINDOW, PALAZZO PALLAVICINI, BOLOGNA.

interior of S. Petronio is remarkably well proportioned and lighted, and contains an unusual number of works of art, and particularly a very fine set of characteristic chapel screens.

Before speaking of the characteristic details of the buildings of Bologna which stand on its public square and in the immediate vicinity, it is well to mention the one feature of its architecture which places Bologna in a class by itself. Each city of the peninsula has some specialty in which it individualizes its architecture. Genoa has its splendid staircases; Florence its massive stone palaces and deep cornices; Venice its charming semi-oriental façades. Bologna has its arcades. Throughout the entire city the sidewalks are carried through the first floor of the buildings, the upper floors projecting to the curb line and resting on rows of graceful arches and pillars. The floors of these arcades are paved with brick or terrazzo, and the pillars are generally built of brick laid in a circular shape or whatever is desired. The graceful capitals of the pillars, which are often done in terra-cotta, have themselves a characteristic modeling, and are beautifully adapted for carrying the arches which spring from them. They have usually only one row of delicate leaves which rise straight from the necking, clinging closely to the vertical sides of the bell and supporting slightly projecting volutes. The result, as seen in the picture of the Palazzo Pallavicini, gives, for a Renaissance cap, a surprising impression of virility and sturdy strength. The usual Bolognese building is in three stories. The windows of the main floor rest upon a decorated string course which runs along above the arcade. These windows are usually of the type shown in the illustration — a wide archivolt made up of several patterns of bricks and with a little finial at the top of the arch which encloses a double motif, with either a

CHURCH OF THE MADONNA DI S. LUCA, BOLOGNA.

PALAZZO PALLAVICINI, BOLOGNA.

slender pillar used as a mullion or a pendant terminating just below the springing of the secondary arches of the two divisions. This type, with slight variations, appears throughout the town, and is not, I think, characteristic elsewhere, especially in materials of clay. The upper or frieze story has circular or arched windows, much smaller, and is surmounted by an elaborately modeled terra-cotta cornice, with modillions and dentils, which terminates the composition, the projecting Italian eaves being omitted.

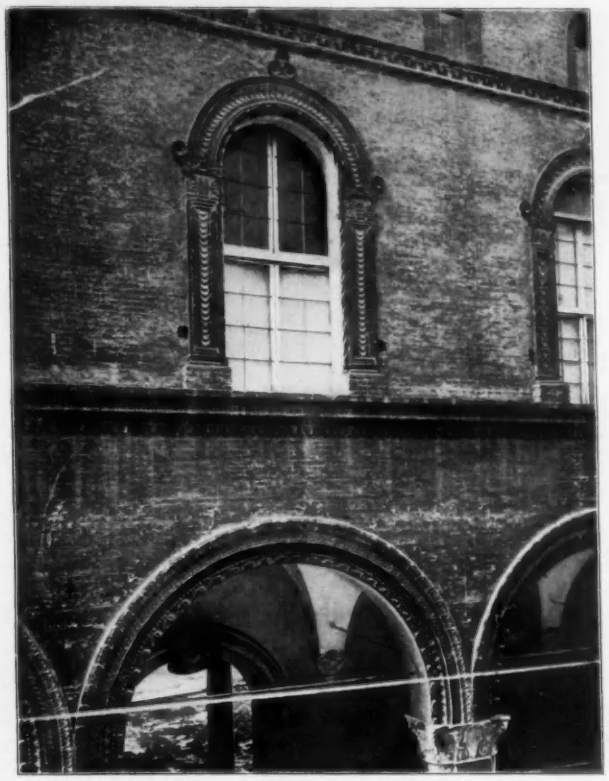
The Palazzo Pallavicini, shown in the picture, is a very good representative of this class of buildings. Except where there are shops there are few windows opening on

the arcades and these are high and heavily barred, the ground-floor rooms receiving most of their light and air from the courtyards. In this connection it is worth while to take a look at the courtyard of the Palazzo Fava, one of the best of these buildings, which stands just around the corner from the great square. The court has a two-storied loggia of arches supported on most graceful round pillars of brick, with capitals of the greatest refinement. The brick walls of the building have at some period been given a light coat of lime wash which is wearing off and exposing the true construction. The

COURTYARD, PALAZZO FAVA, BOLOGNA.

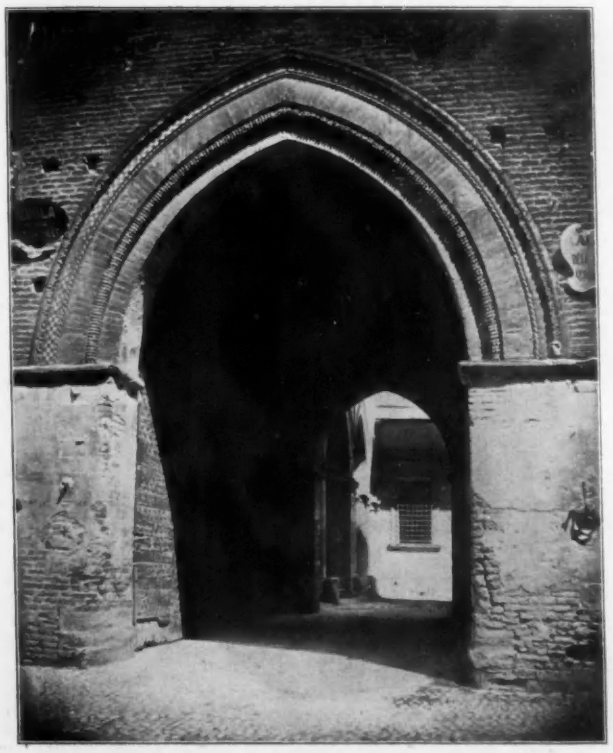
upper loggia, in particular, is especially charming in detail and proportion. At the left are seen the remarkable corbels which support an overhang of the main floor. A general view of the façade has already appeared in THE BRICKBUILDER, but a detail is given to show the beauty of the ornament. These buildings give a very regular and uniform air to the older streets of Bologna, and the builders of the newer quarters have followed the same style, especially in the buildings on the streets leading from the station to the heart of the city.

Brickwork and terra-cotta in the Gothic style are well exemplified in the old Mercanzia and S. Petronio. The early Renaissance work in the same material is principally in evidence in the palaces of the Pallavicini class, and it only remains in this connection to show one or two specimens of the work of the eighteenth century in the same material. The Church of the Madonna di S. Luca, built by the architect Carlo Francesco Dotti in 1731, which stands on a high hill outside the city wall, is one of those



DETAIL, PALAZZO FAVA, BOLOGNA.

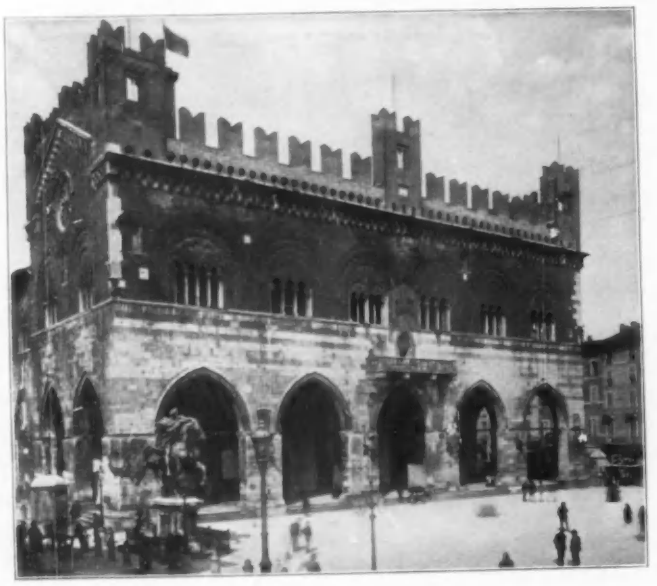
ambitious affairs which seem to recall the airy conception of an architectural school rather than a solid construction of brick and mortar. Nevertheless the first



PORTAL, PALAZZO PEPOLI, BOLOGNA.

view of it conveys a decidedly pleasing impression to the visiting architect, who seems to experience the sensation of seeing one of his student projets actually carried out before his eyes. The main dome of the church with its encircling loggias and pavilions, brilliant in light and shade, makes an extremely interesting composition, which, like all other unfinished buildings, gains in interest by leaving something to the imagination. The only other example that I shall show is the apse of S. Domenico, remodeled in the eighteenth century, and decorated with seven Doric pilasters. The best part of this illustration is the picturesque Italian cloister, whose ample aisles and groined ceilings seem to personify the very type of the monasticism of centuries.

The brick architecture of Bologna is always dignified. Very little of the riotous character of some of the northern work appears. The great portal of the Palazzo Pepoli,



PALAZZO COMMUNALE, PIACENZA.

a short distance from the Piazza, is one of the best examples of this. Nothing could be simpler or more powerful than the great plain arch rings of sturdy bricks, with the firm and decided lines of the encircling ornamentation; and what is found here is typical of all the rest of the Bolognese work.

The Public Palace of Piacenza has been so often illustrated that a lengthy description here would be out of place, and yet when the subject of Italian town halls is mentioned probably that at Piacenza springs first to every one's mind. Certainly no building expresses better the energy and independence of the old Italian municipalities than this glorious monument of Gothic art, a monument that stands as an eternal example of possibilities of good brickwork in the hands of a master. It is impossible for us to refrain from showing this grand old building, fronting sturdily on the market place of the brown old town above the rococo statues of the decadent worthies of a later age, as if to contrast the virile spirit of the early municipalities with their subjection under the later despotisms.

Architectural Practice,—an Art and a Business.*

"What is good for the swarm is good for the bee."

THERE exists a belief as vague as it is general and possessed of all the tenacity of an agreeable religious faith, that the practice of the architectural profession, that is to say, the designing of buildings and supervision of their construction, is a fine art; that it consists of certain mysticisms executed largely with pencil and paper, and is governed by an intangible something held rigidly fast by fixed recipes, either of ancient tradition or of modern schools, which must not be contravened; that the architect is a fantastic dreamer, and that ability in design and capacity for business are fatally antagonistic qualities and impossible of friendly association in the same brain; that architects, in order to be good architects, must be steeped in an intoxication of ornamental forms made respectable by old age, with minds almost closed against progressive thought, and above all without disciplined mentality or ordinary business habits. Also that an architect is some manner of picture maker, one who can tell plausible lies in perspective or in "rendered elevations with accurately cast shadows" with equal facility, and that he may ignore every tenet of manners, customs or of common sense which all other men following any other profession or business are bound to and do respect. In short, that the architect is a creature of moods and emotions, and as these elements have neither responsibility, quantity nor standard, he is therefore himself unaccountable, unsubstantial and unreliable. This is all pretty much a delusion, and although I am aware that it is a dangerous thing to disturb comfortable beliefs for the substitution of disagreeable facts, things which involve readjustment of personal philosophy and contain a promise of work ahead, because the fallacies are harmful and the causes of conditions that are deplorable and injurious to the profession and its practitioners and constitute obstacles to the progress of art which are otherwise insurmountable, they ought to be exploded. The first fact is that instead of our successful architects as a whole constituting a class of befogged dreamers they are in reality fully as keen and of as large capacity in the business of money getting as any other constituency in American affairs.

As we cast an eye over the personnel and work of the architects of the country of whom it may be said that they have achieved success, we find the number of those successful by artistic qualities alone a minority so small as to become relatively a negligible quantity. Upon the other hand a large majority have achieved worldly distinction as successful architects purely because of business capacity. In other words, the practice of architecture, by reason of conditions over which the profession as such had no control, has been a business rather than an art. In this connection it is perhaps proper to say that there is also a distinct class of practitioners who, owing their successes primarily to social position, make the simple error of ascribing their successes preferably to artistic

* A discourse before the New Jersey Chapter, A. I. A., April 17, 1902, by J. F. Harder.

merit. Of course without the quality of business acumen upon their own part or upon the part of friends or family the presumed artistic merit would have remained long in obscurity. The only point made here is that these instances should evidently be counted with the majority of business successes rather than otherwise. While there have been and are architects who adhere to the pet delusion before recited, and others who have conveniently indulged it for business profit, there are also those who with great sincerity make not the slightest pretense that their successes are founded upon anything other than superior business ability. Of these it may be said that they have no delusions at all and deceive neither themselves nor others. They were and are business men engaged in gaining money by practicing the business of architecture. They employed men of such artistic ability as were to be found, as their business demanded such, and paid them well. Now there are those who affect to believe that there is something in this last condition which is wrong and reprehensible. I do not share this belief. I cannot find reason to reproach those who achieve success because they are forceful business men, provided that they practice their business under fair and honorable methods and do not sail under false colors. I prefer to learn something from the evidence furnished by those examples of many of our architects whose names and works have become familiar. The deduction which I make is that the ordinarily accepted belief of a successful architect's composition is a delusion, and that business capacity on the part of the architect, under the organization of modern society, is a prerequisite to his success and consequently to the progress of architectural art. The reason for this is quite apparent. The architectural opportunities fall to those who are preëminent for business rather than artistic ability, and thus it is they who build the architecture of the country, good, bad or indifferent. The architect must be a business man first and an artist afterwards.

Now of course it must be admitted that the condition is a happier one when the architect-designer is at once his own business-architect, an individual fitted by understanding, character and training for the divers demands of daily practice. Environment and demand tend to produce the peculiar combination of equipment required, but right in this connection the peculiar anomaly is presented that normal evolution is often diverted by the errors of advisers and teachers who, themselves victims of hereditary prejudice and not sufficiently close to active practice, have failed to analyze and understand the precise position of the art in modern systems, do not know what is the matter, and have therefore driven unconsciously but persistently against the current of least resistance. No one can say that the pressure of active normal causes assisted rather than diverted by extraneous forces would not rapidly and adequately produce results qualified to fit the conditions of demand.

The practice of architecture is unique in that its function is so thoroughly misconceived by both practitioner and public. It is variously regarded as a business, a fine art, a science, a trade, an occupation, and often as a pastime and recreation. But it is the profession of architecture alone which is important and by which the body social is affected and involved. The profession of architecture results from the union of the art of architecture with the business of the architect. It is thus only by the advancement of the profession that the art may progress. It is only by the perfection of business discipline that the profession may be advanced.

All the discourses upon archæology and history, upon form and color, all the abstract theorizing concerning the beautiful, can have no material effect upon the art architecture of the nation. If this can be affected at all it could only be by some force acting upon the body of professional men who produce it and who are responsible for it in the sum total.

There is much thoughtless complaint and alarm at present concerning the growing invasion of commercialism into art. Analyzed this means nothing at all. Commercialism, far from being antagonistic, is, upon the contrary, friendly to art. Commercialism deals only with the finished product of art, and if it has any interest at all it would naturally be to desire the best art in order that it should command the largest profits. If commercialism could affect the conditions under which art is produced it surely could only be in the direction of improving those conditions and to accomplish the security and satisfaction of the producers to the end of encouraging the very highest quality of art production.

Let it be conceded that the condition thus proven by the past and present must inevitably continue in the future, and that the practice of the architectural profession is of such character, involving as it does business transactions of the highest importance committed to the care of its practitioners, that business methods and capacity on their part are inexorably demanded. It is this condition, peculiar to our profession, which makes the establishment of orderliness relative to business affairs particularly important, and it is to this demand for double qualifications upon the architect and the failure of the profession collectively to realize in a large sense either the condition or the demand that the deplorable lack of ethical progress in business questions relating to the profession is to be ascribed.

While it is true that architects individually have understood their business interests very well and have been at least as enterprising in advancing their personal affairs as most American business men, it is also true that collectively they have been and still are tardy in recognizing that advantage and advancement for the profession as a whole and to themselves as members of it which resides in collective action and agreement. They apparently are still unaware that the crude resultant of many individual self-interests is not identical with collective self-interest or the general welfare, and that collective self-interest is preferably to be intrusted with the welfare of the individual, even to the extent of guarding his selfish personal interest better. Society is founded on individual selfishness, but it is understandable that this may be either enlightened or ignorant.

What is good or bad collectively is also favorable or unfavorable individually; and what is to the advantage of architects as a whole is equally to the advantage of the individual practitioner. No one may violate the laws of good practice for presumed personal advantage without working a tenfold injury to the profession and

thus to the cause of art advancement. In every case the injury reverts to the individuals, guilty and innocent alike. If all violate the tenets of good ethics, whether innocently or through intent or ignorance does not matter, then there can be no ethics or business orderliness and no foundation under the conditions of modern social organization for a wholesome development of characteristic architecture. How can a thinking and intelligent public be expected to respect and gain serious confidence in architectural art if its practitioners, although of great capacity individually, have not collectively reached a sufficiently elevated ethical plane to raise their profession out of the mire of degradation and suspicion and made it worthy, dignified and deserving? Now so far as questions relating to the art of architectural design are concerned these must remain with the individual alone. An art work is inseparably identified with the one who is responsible for its creation. This is a matter of personality and of the emotions, and is not amenable to rules, laws, codes and constitutions. The artist takes the raw material, infuses it with his glorious genius and there is created a work of art. Placed upon the market it at once becomes an article of merchandise. It is entitled to be created under the most favorable commercial conditions and to command the highest monetary reward that the market affords. The greater the remuneration the more substantial the recognition of and compliment to the skill of the artist. This consummation is a blessing both to the artist and to the public. But the questions of business, dealing not with the imagination or emotion, but exclusively with commercial relations, contracts, codes, charges, laws, ethics, rights, responsibilities and things of quantity and quality definitely fixed and tangible, under which, if rightly ordered, all are benefited, elevated and protected and under the neglect of which all suffer alike, are on the other hand, while also of individual concern, much more so that of the collective body and of the public as well as of the state. These are entitled to and they demand rigid establishment, maintenance and control.

The process known as architectural competition has worked more harm by degrading professional practice and corrupting practitioners than any other one cause, but the prevalence of these competitions and their attendant well-known gross abuses can be attributed to only two causes — the presumed necessity for them in public work under republican institutions and professional infirmity ethically on the part of architects collectively. The former is probably a fixed condition. The latter is one which can and must be removed. Is it not common knowledge that nine tenths of the competitions which take place are mere fraud and jobbery from inception? Then why do we permit the disgrace to continue? Is it because we are without the desire, or because we lack the moral courage to resist; or is it because such fine architecture results that the rotten system should not be disturbed? Because architects believed that by participating in these operations, often partaking of the nature of criminal conspiracies of more or less seriousness, where one hundred competed, one might to his immediate gain win a commission, although some one must have secured it eventually in any case, they have not learned that they injure themselves by destroying their prestige and by the loss of confidence and respect of the public. Competitions are not harmful when conducted under conditions recognized as just and equitable under the laws of contests and subject to conditions established upon ethical principles; that is to say, when conducted upon plain business principles and not upon architectural disorderliness.

Better conditions of practice under which the profession may improve and the art prosper can be obtained only at the cost of investigation, labor and time. The establishment and maintenance of sound business principles, ethics of professional conduct and standards of probity and fitness, although a long and difficult undertaking, should nevertheless be attacked with vigor. We must conquer hereditary prejudice and ignorance as well as the cowardice for which art is historically noted. The first step must consist in the recognition of abstract principles, their concrete application to the more grave existing evils, permanent relief from these, and finally the amelioration of lesser abuses and the establishment of advanced ethics. Among the specific measures awaiting action are: first, a wider, more representative and effective organization of practitioners; second, state regulation of practice and registration of practitioners; third, a code governing competitions; fourth, a code of ethics of professional practice; fifth, reconstruction of schedule of charges. All of these are important and each requires thorough analysis and enlightened treatment.

The closer consideration of each of these subjects passes the limits of general discussion; each requires official resolution and action by such organizations as already exist, and upon the part of active practitioners stirred by awakened conscience, interest and understanding. Ethical advancement depends upon something more, however, than mere advocacy. The action of individuals and organizations and the machinery of state power may contribute to its realization, but it can only result from deeper understanding upon the part of the practitioners collectively. A campaign of education is the first necessity. The debate must be before the forum of the entire profession, the men who build the nation's work in city and country, palace and barn. Enlightened self-interest must displace narrow individual selfishness. In this connection a recent discourse by President Hadley of Yale is interesting and prophetic. He says:

"People see the vast business corporations, they see these combinations in politics, they see what is and what is not accomplished by what the world calls success. Very few take these things to heart, but it is recognized that liberty won't do everything that was expected of it once. Some persons want to go back to authority, but that is past. What shall we do?

"We must rely upon the development within the individual of a sentiment identifying our welfare with that of the community. The lesson of trusteeship is what we need and what I believe the world is ready to accept as a principle."

Practitioners must eventually comprehend that they are best benefited individually by what is best for them collectively, and that what is best for them is also best for the public and for good architecture. While it is true that there will always remain some obstreperous practitioners, these will constitute a disappearing minority.

The assumption may be relied upon that enough self-respecting practitioners can be brought to agreement to develop a professional solidarity. While organizations must be relied upon to contribute much towards results, the professional organizations as existing at present are entirely insufficient either to establish or maintain new conditions. Upon the other hand it is not necessary to resort to the organization of a trust, monopoly or trades union, even were this possible in the premises, which is not the case.

Even the modern trust, however, does not attempt to stifle all competition. The fact is that there are many kinds of competition which not only kill the competitors but are hurtful to the community. The approved trust attempts to substitute for a faulty and destructive competitive system which does nobody any good, an orderliness and economy based upon a comprehensive and analytical understanding of the whole subject and all the parties affected, in which personal merit shall receive its full measure of opportunity and deserts, under which the greatest benefit may accrue to the largest number and which renders the best possible service to the public.

The business method of the nineteenth century found expression in the much-abused maxim, "Competition is the life of trade." When the competitive system wrought abuses which threatened to destroy and did destroy that which it was presumed to protect, the twentieth century adopted a modification of the system upon the discovery that "Competition is the death of the competitor."

Competition lies at the very foundation of human progress. It is a condition which is fundamental and must always remain. But its control may be perfected. No one can object to a just and reasonable regulation under which the greatest usefulness results to society and abuses are eliminated.

To sum up, the ethical advancement of the profession lies in the hands of its practitioners collectively; its members have proven by their great individual competence that they are fully able to deal with the subject effectively if they but will to do so. The profession owes this duty to itself and to the public, out of devotion to architecture and because of national patriotism.

As the past is brought nearer to us by wider investigation, and its glories are uncovered in their real significance, it becomes ever more apparent that the only art deserving of the name is that which is representative and expressive of its nations, peoples and races. The slavery to tradition, the mannerisms of schools, the fixedness of styles, contribute but an obstruction to normal evolution. The best of any art, and the only art that ever was, is that which nations, peoples and races had made for themselves out of themselves to meet their necessities, and not that which had been taken from others. Any kind of rationalism is better than all kinds of imitation.

May it not still transpire that it is not an idle dream that American architecture may yet be constituted upon truth instead of delusion, reality instead of imitation, knowledge instead of ignorance, art instead of mechanism, and beauty attendant with a capacity to enjoy it? that a people may have an architecture belonging to their own life, an attribute only of ancient civilizations and a distinction belonging to no nation of to-day?

Fire-proofing.

The Insurance Companies *versus* the Insurers and the Building Laws.

BY WILLIAM COPELAND FURBER.

THROUGHOUT the principal cities of the East and possibly also the South and West a heated discussion has been going on regarding the recent action of the insurance companies in raising the rates of insurance on property in the business sections of the cities and in sections contiguous thereto, and a great deal of this discussion has been futile because the facts were unknown and therefore the discussion was beside the point, or if the facts were known, then the remedy which is in sight was ignored. Some of the discussions led to suggestions for legislative action which would compel the insurance companies to cease acting in harmony in maintaining the rates, etc., and other discussions attempted to establish the proposition that with the increasing size of floor areas in buildings with wooden interiors such additional precautions were always taken by the occupant that the increased hazard was eliminated by the use of fire-fighting apparatus, etc.

The discussion in Philadelphia has been widespread, and a great deal of it unreasonable, in condemning the insurance companies as a "trust" in arbitrarily raising the rates because they had the power; and it must be admitted, if this were true, that this sort of discussion might have weight and be worthy of consideration if there were no justification for such action on the part of the insurance companies; because trusts of all kinds which for their own profit arbitrarily raise the price of commodities are to be condemned as doing monstrous moral wrong to the communities which are dependent upon them; yet before the objectors to, and critics of, the present policy of the insurance companies can have proper grace to present their grievances they must show first that their alleged grievances are just and that they themselves are not wholly responsible for the deplorable condition in which they now find themselves with practically uninsurable risks on their hands.

The moral of the Biblical story of the foolish man who built his house upon the sand, which the rains and the floods washed away, is not wholly inapplicable in a somewhat parallel case to the man who constructs his building of inflammable material and then complains of the extortion of the fire insurance companies when they charge a high rate of premium for a risk which he himself is afraid to carry.

Insurance companies are not charitable institutions, and while there may be much to criticise in their methods of doing business and their almost entire lack of inspection of their risks, yet it must be conceded that they cannot be run as commercial propositions if they are run at a loss.

The figures compiled for one of the state governments seem to indicate that the insurance companies have been doing business at a very great loss in the business sec-

tions of some of the principal cities, and show that but for the premiums collected in the residence sections there would have been a much greater deficit than now appears.

To take Philadelphia as an illustration: Since 1895 the insurance companies have been obliged to make reports of the premiums collected in that city. These reports show for seven years, from 1895 to 1902 inclusive, that the aggregate losses in the whole city have been $2,904,370, and the aggregate profits have been $2,147,755, making a net loss on the whole city of $756,615.

Table A shows the business in the city of Philadelphia for a period of seven years. The figures cannot be had for a longer period because it was not until 1895 that companies were obliged to make returns of the premiums collected in said city.

TABLE A.

Underwriting Results in Philadelphia for Seven Years.

Year.	Premium.	Losses and Expenses.	Increased Liability.	Total Losses, Expenses and Increased Liability.	Balance.	
					Profit.	Loss.
1895.....	$3,345,371	$2,678,425	$100,361	$2,778,786	$566,585	.....
1896.....	3,449,089	2,855,679	34,490	2,890,169	558,920	.....
1897.....	3,474,154	3,643,007	69,483	3,712,490	.....	$238,336
1898.....	3,452,878	2,576,794	138,115	2,714,909	737,969	.....
1899.....	3,525,429	5,051,989	176,217	5,228,106	.....	1,602,786
1900.....	4,184,627	5,038,644	209,231	5,247,875	.....	1,063,248
1901.....	4,259,036	3,761,804	212,951	3,974,755	284,281	.....

Of the total fire losses in the city during the last ten years, about 40 per cent (or $8,076,496) occurred in the congested district; it is estimated that the premiums collected in that district did not exceed 22½ per cent of the total.

In the "congested district" alone the report shows that for the same period the aggregate losses have been $4,116,315, and the aggregate profits have been $505,904, making a net loss in the congested district of $3,610,411.

Table B shows the business in the so-called congested district for a period of seven years. Figures for the preceding years are not accessible for the same reasons as stated in Table A.

TABLE B.

Showing Results in the Congested District of Philadelphia for Seven Years.

Year.	Premiums.	Losses and Expenses.	Increased Liability.	Total Losses, Expenses and Increased Liability.	Balance.	
					Profit.	Loss.
1895.....	$669,074	$503,444	$20,072	$523,516	$145,558	.....
1896.....	689,817	404,286	6,898	411,184	278,633	.....
1897.....	694,830	1,949,182	13,896	1,963,078	.....	$1,268,248
1898.....	690,575	589,219	19,623	608,842	81,713	.....
1899.....	705,084	2,083,339	35,254	2,118,953	.....	1,413,869
1900.....	1,046,156	2,404,496	52,307	2,456,803	.....	1,410,647
1901.....	1,277,710	1,239,306	61,965	1,301,261	.....	23,551

It will be noticed that the net losses in the congested district are almost five times as great as the total net losses; and this is because the premiums in the city taken as a whole reduced the loss in the city taken as a whole.

It is also estimated that for the eleven years 1890 to 1900 inclusive the profit and loss on the underwriting business in the United States has been: Aggregate losses, $64,097,569; aggregate profits, $37,151,764; net loss in eleven years, $26,945,895; estimated total loss in 1901, $19,000,000.

Table C gives the results of the business throughout the United States at large. It is compiled from the records of the insurance department of the state of Pennsylvania, and contains the total business, wherever done, by all the companies that report to that department. This is for a period of eleven years.

TABLE C.

Underwriting Results for Eleven Years.

Year.	Premiums.	Losses and Expenses.	Increased Liability.	Total Losses, Expenses and Increased Liability.	Balance.	
					Profit.	Loss.
1890.....	$108,575,963	$97,985,373	$5,689,278	$103.674,651	$4,901,312	.....
1891.....	115,360,298	112,323,698	10,884,979	123,208,677	.....	$7,848,379
1892.....	127,378,316	124,828,489	9,399,022	134,227,511	.....	6,849,195
1893.....	129,868,228	134,922,806	5,259,759	140,183,215	.....	10,314,337
1894.....	127,048,726	121,372,431	2,834,926	124,207,357	2,841,369	.....
1895.....	129,846,968	120,194,471	3,690,444	123,884,915	6,042,053	.....
1896.....	131,582,111	119,485,940	1,267,969	120,753,909	10,808,202	.....
1897.....	135,544,253	120,485,351	2,400,074	122,885,425	12,558,828	.....
1898.....	136,192,286	133,698,958	5,050,194	138,749,152	.....	1,556,866
1899.....	142,064,985	157,447,554	7,086,799	164,534,353	.....	22,469,365
1900.....	141,076,787	149,768,793	6,367,821	156,136,214	.....	15,059,427

The *third* column, "increased liability," shows the difference in liabilities of the companies at the close of the several years by reason of increased premium reserve, unpaid losses, etc. The *fourth* column aggregates the losses, expenses and increased liability; the difference between this column and the *first* column shows the profit or loss for the year in the underwriting business.

The result for 1901 by "The Spectator" tables shows a loss on the underwriting of $11,290,109, to which must be added the increased liability (column 3 above), say $7,500,000, or a total loss for 1901 of about $19,000,000.

These figures are taken from a circular compiled by Mr. George E. Wagner, president of the Philadelphia Underwriters' Association, on "Why the Rates have been Advanced." Where estimates have been made they are believed to be correct; where other figures are given they are taken from the records filed with the state government.

One does not have to be so very bright or apt in figures to see that the insurance business has not been exactly a money-making enterprise and that it might have been better for the companies had they indulged in some pleasanter way of spending their money; therefore one cannot fail, in the face of these figures, to understand why the rates of insurance have been advanced.

Having taken a look at the facts, let us now look about for the causes which have produced these results and see if a remedy can be found. Let us say first that the losses which the insurance companies have suffered they partly deserve to suffer; and if that seems harsh or severe let us modify it just a little by saying that perhaps they brought it about, or part of it about, by their own shortsightedness, acting in ignorance of the inevitable result; or if that statement makes it appear as if the critic considered himself superior, let us say that in the commercial instinct to get business, fire-proof buildings not affording a sufficiently lucrative field, they rather favored less imperishable forms of construction, basing their judgment on the past, when buildings occupied relatively small areas and losses were few; but their recent experience has proved that their judgment was wrong and that large premiums are frequently followed by large losses.

Let us be reasonable and say that the insurance companies were acting on what they thought was good business judgment in giving such rates of insurance on buildings with interior construction of combustible material, that the owner found it also good business judgment to allow them to take the risk, and pay the pre-

mium on such risks out of the money he saved on cheap construction; but the figures show that the insurance companies have paid very dearly for their experience.

Now that we have progressed thus far, we have the facts which show the losses; we also now know that the insurance companies have realized that they were wrong in making the premiums so low on combustible buildings that it led to the multiplication of such buildings, and we also now know that in endeavoring to make themselves whole they have advanced the rates enough to make good their losses, which is the only natural thing for them to do; and while this action on their part may seem harsh, yet it must result in better construction of buildings, which might have come about long ago had the insurance companies been wise; but as hindsight is easier to the eyes than foresight we will not discuss this point any further; and if a better class of buildings result from their action we must thank them, evenif they have been delinquent in deserving our thanks.

If the insurance companies make reply, as they do, that they are not responsible for the present state of affairs, that they can only insure what they find, let the answer be this: that they have now discovered the premium they were charging on combustible risks has not been sufficient to cover these risks and that they are now trying to make a rate that will cover them; consequently, as their rates are now high, it does not take a prophet to discern that having now discriminated against this form of risks the man who proposes to build will consider his insurance more carefully than he formerly did, and that as a result of this consideration wooden interior construction will give way to fire-proof or non-combustible construction.

But entirely aside from the insurance phase of this discussion, the community itself should take action and by proper laws prevent the waste now going on in our cities caused by these unnecessary fires.

With the increase of the size of establishments for retail and wholesale trade and manufacturing purposes in the cities demanded by modern conditions, the fire hazard has been so enormously increased that combustible buildings should not be allowed to be used for such purposes; for with these great areas, if fire once obtains a headway it is impossible to extinguish it because of the inability, on account of the heat, to get close enough to put on water, and it must therefore burn itself out before it can be controlled. When the floors of buildings were only say 50 feet wide by 150 or 200 feet in length, enclosed by brick walls, it was not a difficult thing for the firemen to keep the fire entirely confined to the building in which it originated; but with the areas of 80,000 square feet, not divided by fire walls, a condition not uncommon in our large department stores, the spread of the flames would be so rapid that before the firemen arrived the building would probably be doomed, and the loss of life which would undoubtedly result and the damage to which such a fire would subject the surrounding property, are sufficient excuses for the most radical legislation on the subject of large areas in combustible buildings.

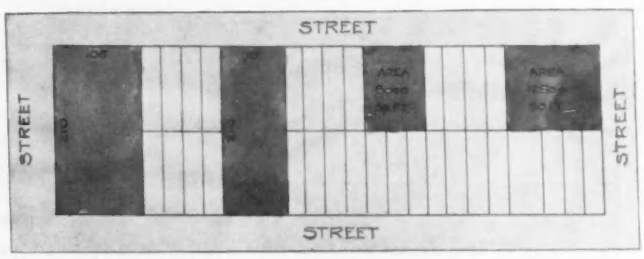
Philadelphia is suffering at present from a lack of proper building laws to meet the modern conditions. The existing laws were framed when the congregation of large department stores around a common center could not have been foreseen; but owing to the lack of preventive legislation the business section of the city, now called "the conflagration district," has been called upon to pay an increase of insurance in district menaced by the department stores. Buildings with wooden interior construction, with great undivided areas, form such a serious and threatening danger to the neighborhood that the business section of the city is now at the mercy of the owners of these buildings. It is needless to point out that this danger could have been avoided had it been foreseen, but having now been demonstrated, the remedy is to restrict the size of the floor areas or to insist upon absolute fire-proof construction.

In this connection it is interesting to note the provisions of the building laws of Greater New York on the permissible areas of non-fire-proof and fire-proof buildings.

"Non-Fire-proof Buildings.

"In all stores, warehouses or factories, in case iron, steel or wood girders, supported by iron, steel or wood columns or piers of masonry, are used in place of brick partition walls —

"The building may be seventy-five (75) feet wide and two hundred and ten (210) feet deep. When extending from street to street, or when otherwise located, may cover an area of not more than eight thousand (8,000) square feet.



LIMITING AREAS OF NON-FIRE-PROOF BUILDINGS IN NEW YORK CITY.

"When a building fronts on three streets it may be one hundred and five (105) feet wide and two hundred and ten (210) feet deep.

"Or if a corner building fronting on two streets, it may cover an area of not more than twelve thousand five hundred (12,500) superficial feet, but in no case wider nor deeper, nor to cover a greater area except in the case of fire-proof buildings.

"An area greater than herein stated may, considering location and purpose, be allowed by the Board of Buildings when the proposed building does not exceed three stories in height."

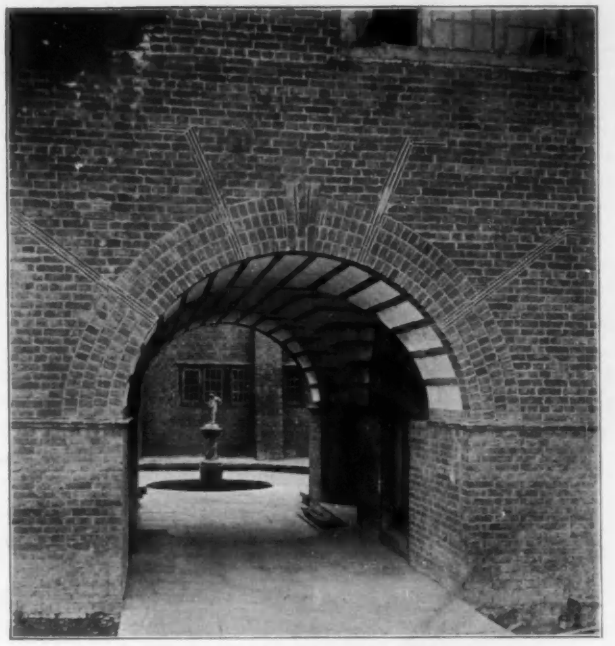
It will be noticed that the building laws make no restriction on the ground areas of fire-proof buildings, and if a further argument in favor of fire-proof construction is needed here it is.

The New York City building laws in this respect furnish a model which may profitably be followed by other cities. The conditions under which many business enterprises are conducted to-day require large floor areas unobstructed by walls, this fact is recognized by these laws and concession made to it by permitting such areas under the only condition upon which they are safe, — which is, that the structure shall be fire-proof.

Architectural and Building Practice in Great Britain.

BY OUR SPECIAL REPRESENTATIVE.

FOR some months past the problem of bricklaying has been before the public. The discussion was started by the *Times*, whose statements, despite all the generalizations of labor leaders and socialists, have been upheld; and very serious statements they are. The *Times* contended that there was a steadily growing disposition among bricklayers to "ca' canny" or "go easy" and that trade-unionism was responsible for it, the system in its mildest form keeping the strong, efficient and willing worker down to the level of the weakest and most inefficient, and in its worst aspect amounting to deliberate loitering. Moreover, wages and the price of materials have both substantially increased of late years; so that the combined effect has been to increase the cost of building enormously. Ten years ago a plain brick wall could have been erected for £12 ($60) per rod (272 feet); to-day the same wall would cost £20 ($100). Allowing for the increased price of bricks the average cost of labor alone in brickwork (exclusive of pointing) has risen from £3 ($15) to £6 ($30) during the period mentioned. Innumerable instances could be cited to prove the truth of these statements, but I will content myself with one more only, taken from the experience of a Leeds master builder. Two years ago he had a certain contract in hand which cost about £70 ($350) in labor. At the beginning of this year he was carrying out an identical contract, but the labor cost £15 ($75) more, "on account of the men not doing the work as they should do." No reasonable person with a knowledge of the facts would deny that the workmen have just as much (if not more) right as the masters to combine into unions, and they have doubtless secured many benefits from such an amalgamation; but it is impossible to shut one's eyes to the present condition of things, a condition under which both masters and men regard one another with suspicion and distrust, resulting in disputes and lockouts which are detrimental to the best interests of both parties. At Bath a short time ago one hundred masons and bricklayers left a job rather than work with five society men who had not paid certain penalties. The five refused to pay, the firm would not discharge them, and so the whole one hundred struck work and remained out till ordered to return by the local officials. This is what is constantly happening. To make matters worse a dispute often occurs among the different trades as to who should do certain work: a plasterer may object to a bricklayer putting down some "granolithic" stable-paving, or the bricklayer may take it into his head that roof-tiling is his work and not the tiler's. There are many unwritten laws among the bricklayers, and one of them is concerned with the mystic words "sail-ho" and "spell-ho." The former is the signal that the foreman or employer is in the vicinity, and then the clink of the trowel can be heard one hundred yards off; but when the overseeing presence has departed the latter word brings the men back to their normal slow speed of work. One bricklayer has attempted to explain why fewer bricks are now laid by instancing the nine-hours day as against the ten and one half of old, and the disappearance of the jerry-built front with its stucco veneer; but this is not a satisfactory explanation, though partially true. That a much greater number *can* be laid by British bricklayers is now proved at the immense new works being erected by the Westinghouse Company at Manchester. Here the men are paid good wages, they are well supervised and



ENTRANCE TO COURTYARD, HOUSE AT SONNING.

GARDEN FRONT, HOUSE AT SONNING, READING, ENGLAND.
E. L. Lutyens, Architect.

they are aided with mechanical appliances, with the result that instead of three hundred or four hundred or even six hundred, we find each man laying an average of eighteen hundred bricks a day *on face work* — as many as twenty-two hundred and fifty are laid on common work. These are American methods, and their effectiveness is in marked contrast to the ordinary conservative methods of this country.

One of the most able of modern English architects has recently died — J. F. Bentley, a great builder in brick, like the late James Brooks. Mr. Bentley was a man of strong individuality and masterly talent, in this respect resembling Butterfield; but owing to a retiring nature and a rooted dislike of publicity his work is comparatively little known even among architects, though latterly his great Roman Catholic cathedral at Westminster has brought his name before the public. Architects of his character become famous only after they are dead. Mr. Bentley resembled Mr. H. Wilson in his versatility, for in addition to being an architect he was a painter, a worker in stained glass, a designer and a craftsman, and one could wish for no better example of this wide range of talent than the Church of the Holy Rood at Watford in Hertfordshire. He will, however, be chiefly known by his cathedral at Westminster, into which he "built his life." Mr. Bentley's death was tragic. To all appearances he was well and hearty on a Friday, yet the next night he died of paralysis in a friend's house in London. He had been seized on two previous occasions, and one who knew him well has set down how Bentley would stand evening after evening in the shade of his great tower, gazing long and fixedly at its gradual advance to completion and then turning away with a sigh at the belief that he would not live to see his designs carried out in their entirety. Moreover, the tragedy was heightened by the fact that on the following Monday a special meeting of the Royal Institute of British Architects had been convened for the purpose of nominating him as the recipient of the Royal Gold Medal "for his work as an architect"; but he is now beyond such honor. Americans may perhaps like to know that he left completed designs for the new Roman Catholic cathedral to be erected at Brooklyn.

One of the finest buildings being completed in London is that for Lloyd's Register of British and Foreign Shipping, designed by Mr. Collcutt, the architect of the Imperial Institute at South Kensington. In richness of ornamentation and detail there is only one other commercial building in the city that can compare with it — the Hall of the Institute of Chartered Accountants, on which the late Harry Bates did such splendid work. Mr. Collcutt has called in the services of Mr. George Frampton, A. R. A., to execute the sculptured frieze on the main façade, the gates and other metal work, while Professor Moira (professor of design at South Kensington), Mr. F. Lynn Jenkins, Mr. Henry Pegram and other well-known artists have combined to produce a very beautifully decorated interior.

"CROOKSBURY," FARNHAM, SURREY, ENGLAND. E. L. Lutyens, Architect.

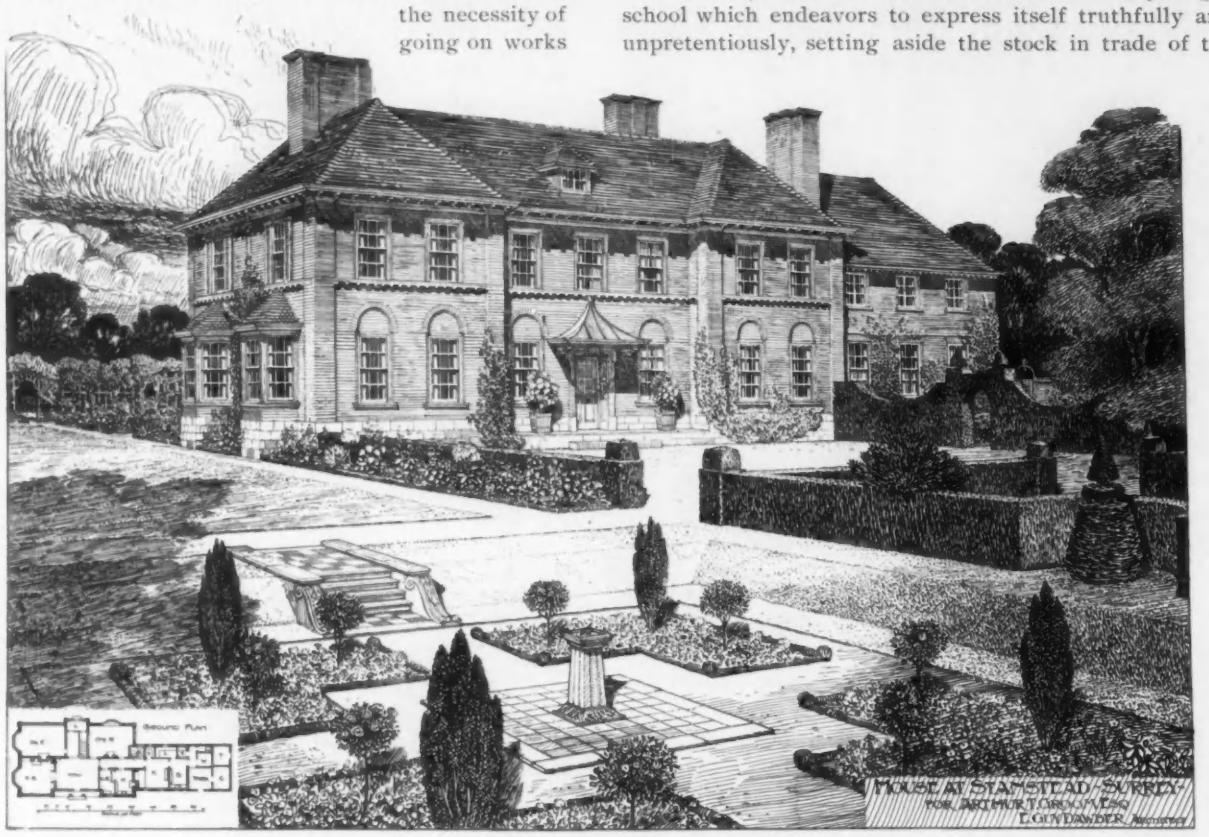
In February last a paper of unique interest was read before the Architectural Association, unique as being the first paper read by a lady before such an association in this country. The subject was "A Plea for Women Practicing Architecture." The results of women candidates at university examinations are indeed remarkable, and

there is no denying the possibility of similar success being attained by them in architecture. There are, however, limitations of sex, not the least of which concerns the necessity of going on works and directing contractors. The subject is too wide to discuss here, and I will therefore simply sum up the opinion that if women enter the profession they will probably find it inevitable for them to restrict themselves to the office or to decorative work, leaving the rougher and outdoor work to "mere man." Several ladies have passed the architectural societies' examinations here, but none really practice on their own account.

Besides what I have already mentioned there is nothing of special interest to record. The Queen Victoria Memorial Fund has not yet reached £200,000, so there is little hope of the work being completed; it has not been begun up to the present. For similar reasons the new cathedral at Liverpool, about which there has been so much controversy, is not likely to be built just yet.

In conclusion I may refer to the accompanying illustrations:

Mr. Lutyens is a brilliant member of that younger school which endeavors to express itself truthfully and unpretentiously, setting aside the stock in trade of the ordinary architect. The examples illustrated clearly show this. The house at Sonning derives its beauty from the excellent proportion observed and the "function" expressed in each feature. The lighting of the inner courtyard, with its little statue, is particularly happy.



HOUSE AT STANSTEAD, SURREY. E. Guy Dawber, Architect.

SHOREDITCH LIBRARY AND BATHS, LONDON, ENGLAND.
Henry T. Hare, Architect.

Mr. Guy Dawber is well known as an architect of country houses, and the design of the house at Stanstead is a good example of his work. The plan of the house is evident from the exterior, which is treated in that restrained, almost severe manner that lends such dignity to the houses of the Georgian period.

Shoreditch Public Library, Baths and Wash-houses are built of bricks and Burmantofts terra-cotta. Some of the interior decorative work is by Professor Moira and Mr. F. Lynn Jenkins.

Selected Miscellany.

Color in Architecture.

BY H. B. PENNELL.

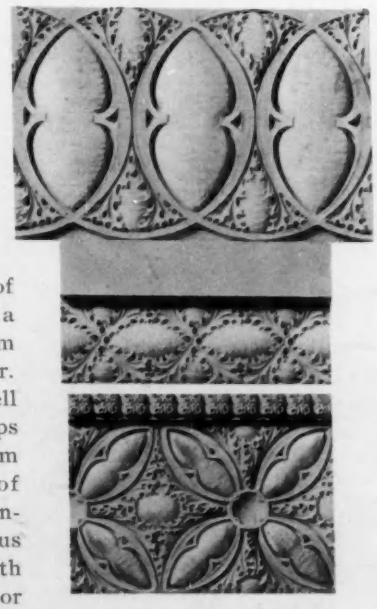
BOSTON, like many other American cities, was once a city of red brick and brownstone, but now it is fast losing this character, owing to the larger use of light-colored building materials which the architecture of to-day has demanded. Then, too, the great wealth and variety

DETAIL BY SASS & SMALLHEISER, ARCHITECTS.
New Jersey Terra-Cotta Company, Makers.

of building materials in America has been an important factor in changing the use of color in cities, and is largely responsible for the present patchwork appearance of our streets. Add to this the individualism, the keynote of American life, which is felt even in our architecture, and we can readily see why uniformity of color is not possible and not to be expected in our buildings, even if that were an artistic necessity. There are those who maintain that monotone is the only ideal and dignified treatment of an exterior. There are countless examples in architecture, both here and abroad, which could be cited to substantiate this theory; but dignity and grandeur are not the only possibilities in architecture — there are picturesqueness and quaintness for example, which, in their proper places, have a charm of their own.

DETAIL BY E. J. LENNOX, ARCHITECT.
Perth Amboy Terra-Cotta Company, Makers.

Paris is an example of a city whose buildings are largely monotone, owing to the uniform use of Caen stone. The impression of Paris is that of a soft gray city, from one end to another. In the slums as well as on the Champs Elysées the warm neutral color of buildings is wonderfully harmonious with Nature, with its gray skies or blue, in summer or in winter, by night or by day, and makes a background for the innumerable trees, bright-colored awnings, shutters, balconies, and the color in its street life. It is safe to say that this ensemble of neutral color, enlivened by brilliant bits of color, is one of the lasting impressions of this gay city.



DETAILS EXECUTED BY EXCELSIOR TERRA-COTTA COMPANY.

DETAIL EXECUTED BY THE NEW YORK ARCHITECTURAL TERRA-COTTA COMPANY.

The reasons for this color are evident. The quarries are close by, the stone when quarried is very soft and easily worked, and the building laws are also rigid in prescribing the use of material as well as the height of a building. There are many towns in Italy and Spain where the materials closest at hand have determined the characteristic color of the place; but these instances of uniformity, attractive as they are, do not mean that London is not quite as interesting from its variety of color and architecture, or that an architect should always work in one material. It would be quite as logical to expect an artist to paint pictures only in monochrome.

Building materials make up an architect's palette just as pigments are used by an artist. Marble, granite, limestone, brownstone, various colored bricks, terra-cottas in many shades, bronze and wood, are only a few of the colors in an architect's workbox. The difference between the artist and the architect is that the former applies color to surfaces and the other constructs color, that is, if the color effect is obtained by the use of natural materials. Whether the color of the building is natural or applied will depend largely on its cost and the climate. In the South, pigments can easily form a large part of exterior decoration, while in the North they could only be used in loggias, friezes and soffits. The sky and atmosphere of southern

PANEL BY BARNETT, HAYNES & BARNETT, ARCHITECTS.
Winkle Terra-Cotta Company, Makers.

BUILDING, HUNTINGTON AVENUE, BOSTON, MASS., BUILT OF FISKE & CO.'S ROUGH-TEXTURED RED ROMAN BRICK.
Arthur H. Vinal, Architect.

countries also permit of very brilliant colors, while in the North quiet colors have to be used.

The contrast of colors used in large masses must be very slight, and strong contrasting colors used only in small points to give brilliancy. But the effect of strong colors on duller hues has always to be carefully considered.

The size of a building is also necessary to be considered. A small building may be a glowing mass of color, while a large one constructed in the same material would be tiresome. The choice of the dominant color for a building should be most carefully chosen, and theoretically should depend on the surroundings of adjacent objects and buildings; but the real estate of our cities is not yet sufficiently settled to make even this a safe rule. All other things being equal, the juxtaposition of colors is one of the most important elements to be considered, and if harmony is to be the result it should be decided by the architect and not chosen by whims of clients.

One of the niceties of color work in surfaces is this variation in color within certain limits, as Nature varies her colors by many differences in shades and tints. It is this that gives beauty to color in brick walls and tile roofs, and one of the chief differences between artistic and mechanical results.

This principle is perhaps best shown on color of exterior in laying brickwork and terra-cottas in diaper patterns. In order to obtain this result the color of the

DETAIL BY BOLL & TAYLOR, ARCHITECTS.
St. Louis Terra-Cotta Company, Makers.

design should receive careful consideration from the first, as the color is quite as important a factor in effect as form or proportion, line or mass. If vivid colors are to form a part of a scheme, large simple masses of color must surround them, and color focused at one point as carefully as an artist would focus the light and color in

EPPS BUILDING, BOULEVARD, CHICAGO.
Henry R. Newhouse, Architect.
First story, dark Norman brick. Upper stories, light gold stretchers with dark green, salt-glazed headers.
Furnished by the Columbus Face Brick Company.

BELVIDERE COURT, BROOKLINE, MASS. A MODERATE RENTAL APARTMENT.
Parker & Thomas, Architects.

composing a picture to form a climax. Color should also have a constructive value just as distinct as certain architectural forms express a purpose.

A pier, a dome, a pendentive, a frieze, a lunette, all mean something in architecture, and the color they bear must express this purpose or their meaning is lost. Just how this meaning is obtained is best learned from precedent and history, from which also we find the best authority for the use of color in exterior decoration.

BOOK REVIEW.

AMERICAN GARDENS. Edited by Guy Lowell. Boston: Bates & Guild Company. 1902. Price, $7.50.

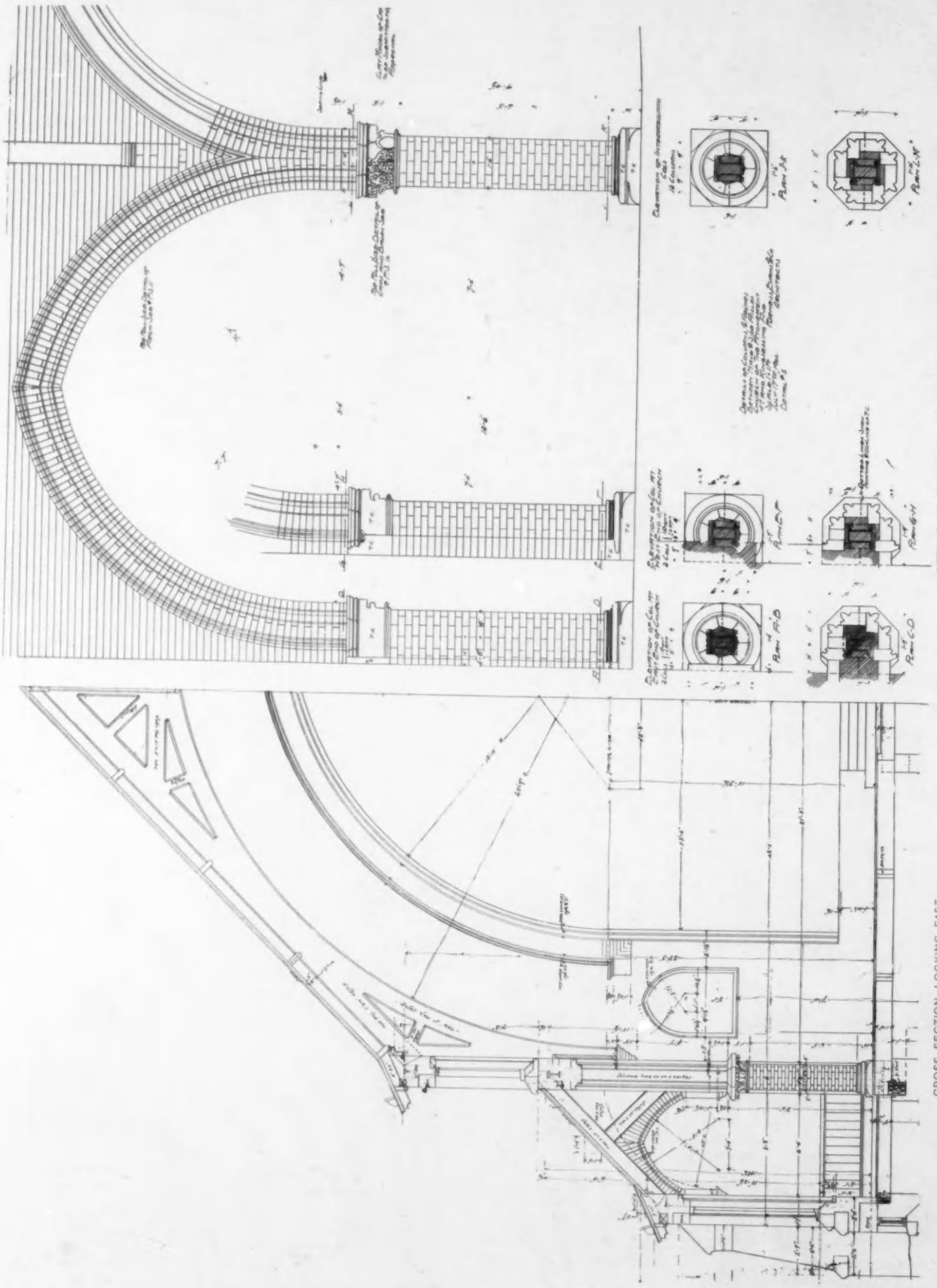
An examination of this volume leaves one amazed at both the quantity of excellent work of this particular description which now exists in our country and also at the admirable manner in which the publishers have been able to present the subjects. A garden has always been a favorite theme and it suggests combinations of light and shade, color and form, which are always entrancing; but in this collection of one hundred and twelve photographs every one is a picture, and a very interesting picture, by

FLATS, ST. GERMAIN STREET, BOSTON, MASS.
Parker & Thomas, Architects.

itself, aside from its merit as a representation of gardening. The views have been beautifully and most artistically chosen, and it is a delight to turn over the pages and study the pictures as works of pure art. It was a thorough artist who stood behind the camera for these plates; none other would be able to choose such a view as plate 47

DETAIL, MONKEY HOUSE, BRONX PARK, NEW YORK CITY.
Heins & La Farge, Architects.
Atlantic Terra-Cotta Company, Makers.

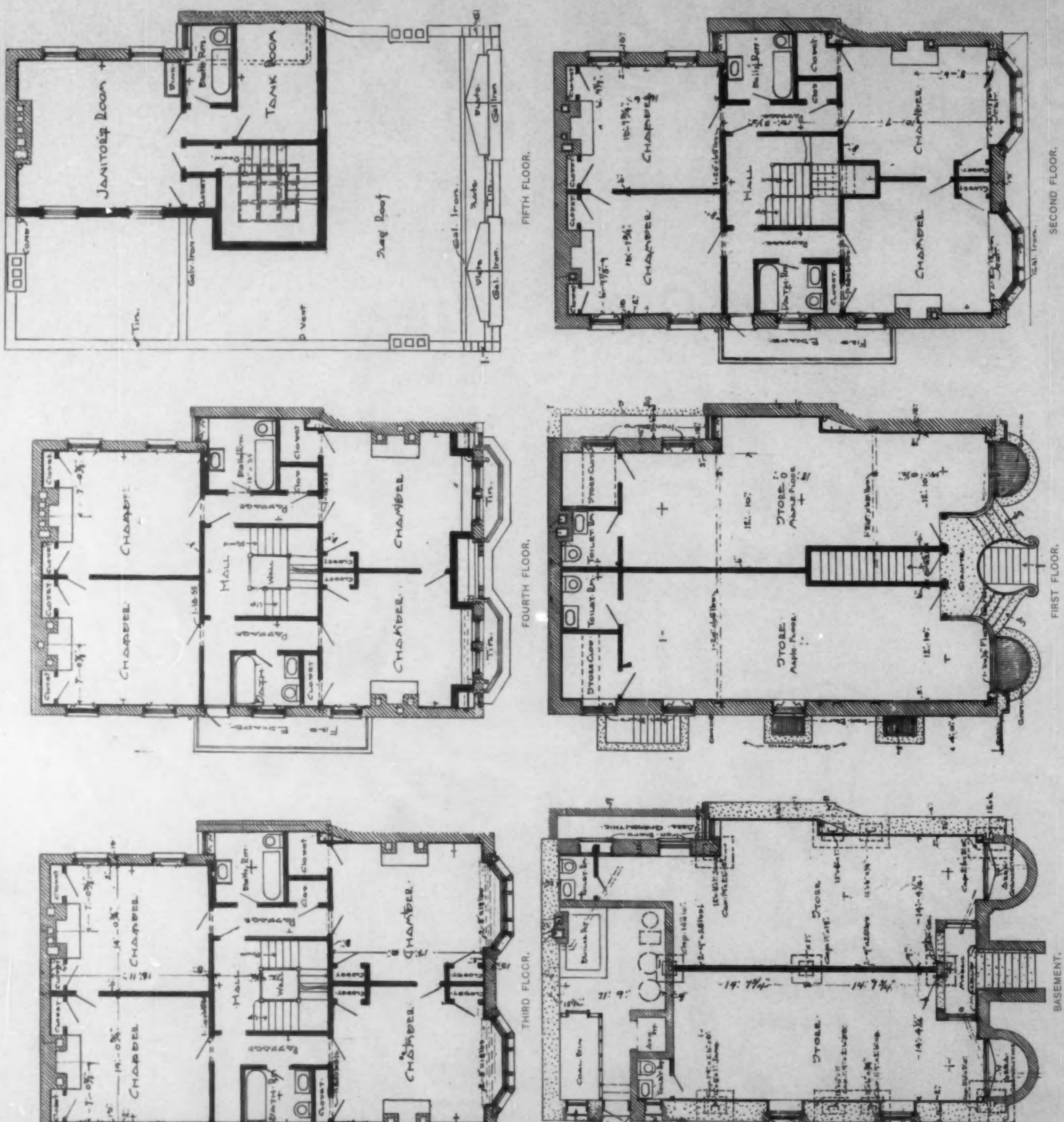
RESIDENCE AT GLENSIDE, PA.
H. A. Jeckel, Architect.
Built of Kittanning Roman-size brick. O. W. Ketcham, Philadelphia Agent.



DETAILS OF COLUMNS AND ARCHES BETWEEN NAVE AND SIDE AISLES.

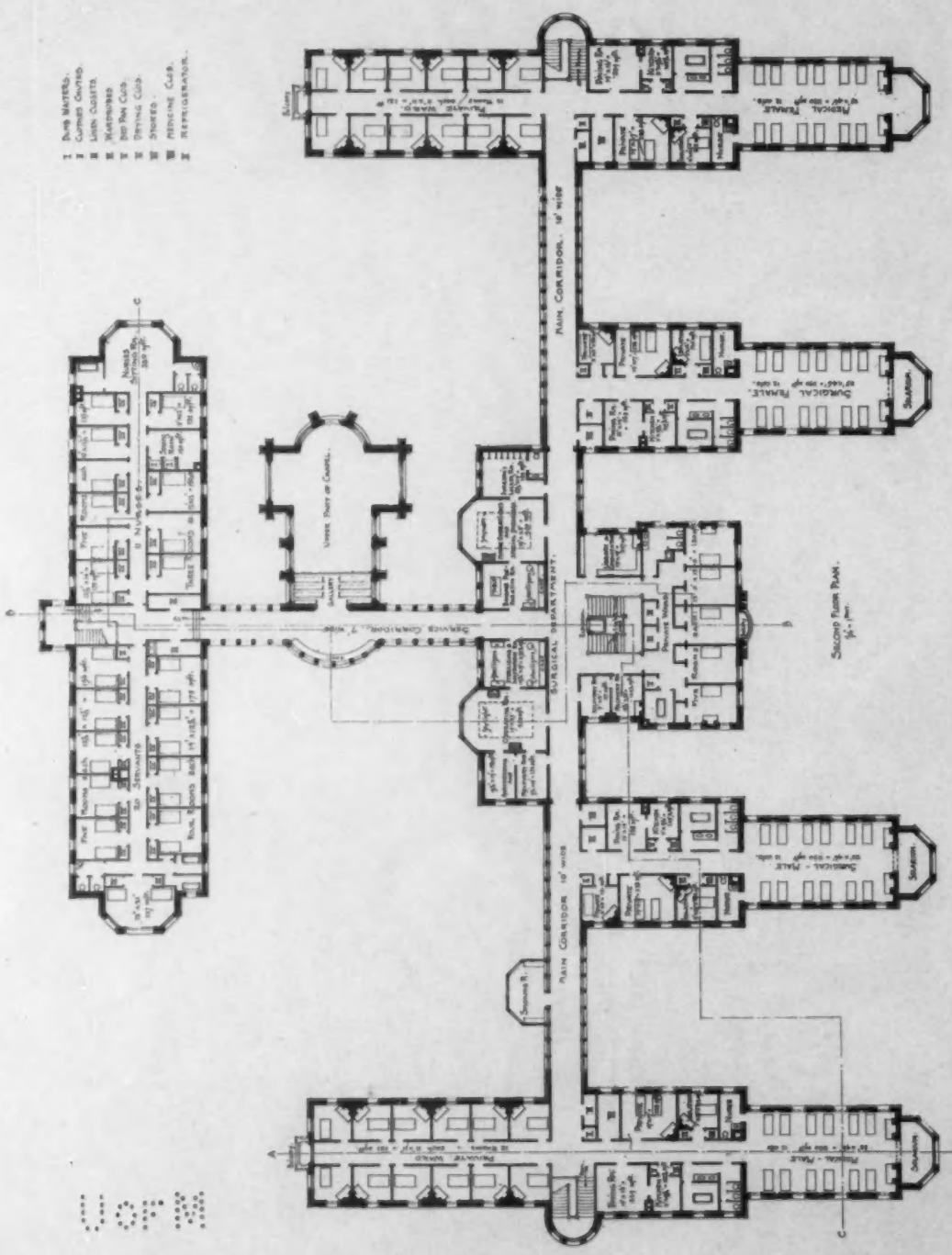
CROSS SECTION, LOOKING EAST.

CHURCH OF THE ATONEMENT, PHILADELPHIA, PA.
Furness, Evans & Co., Architects.



PLANS, STORE AND APARTMENT BUILDING, ELEVENTH STREET, PHILADELPHIA, PA.

HAZLEHURST & HUCKEL, ARCHITECTS.



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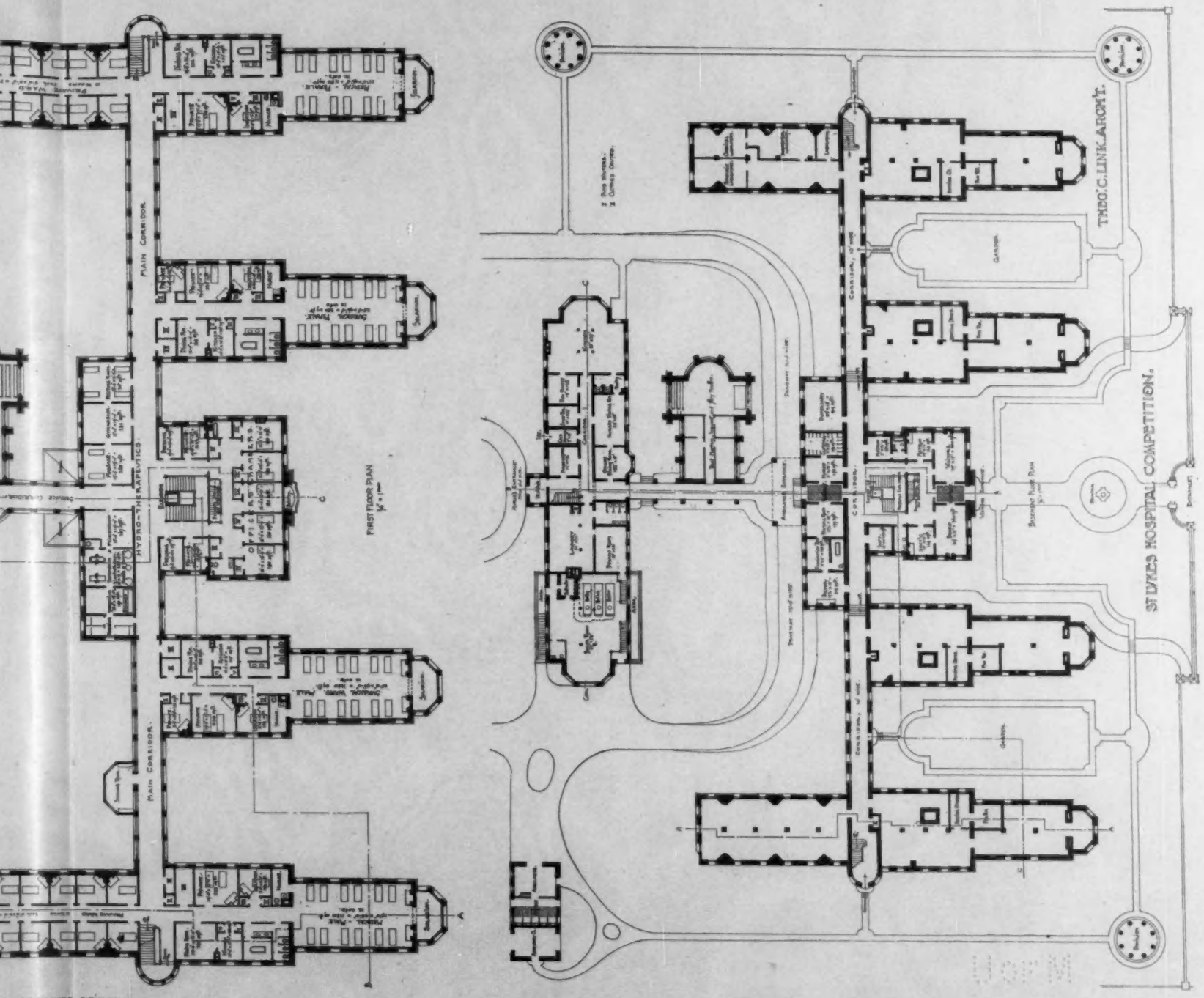
PLANS, COMPETITIVE DESIGN FOR ST.
THEO' C. LINK, A



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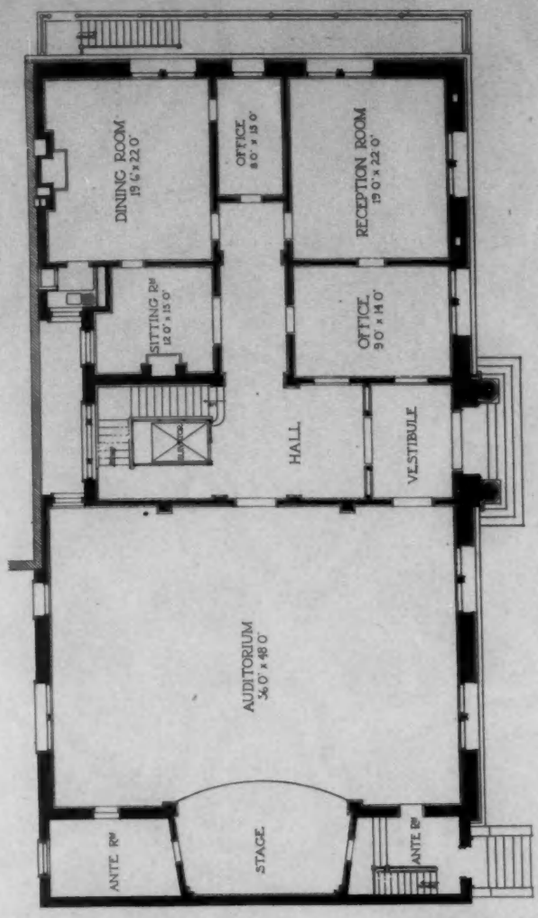
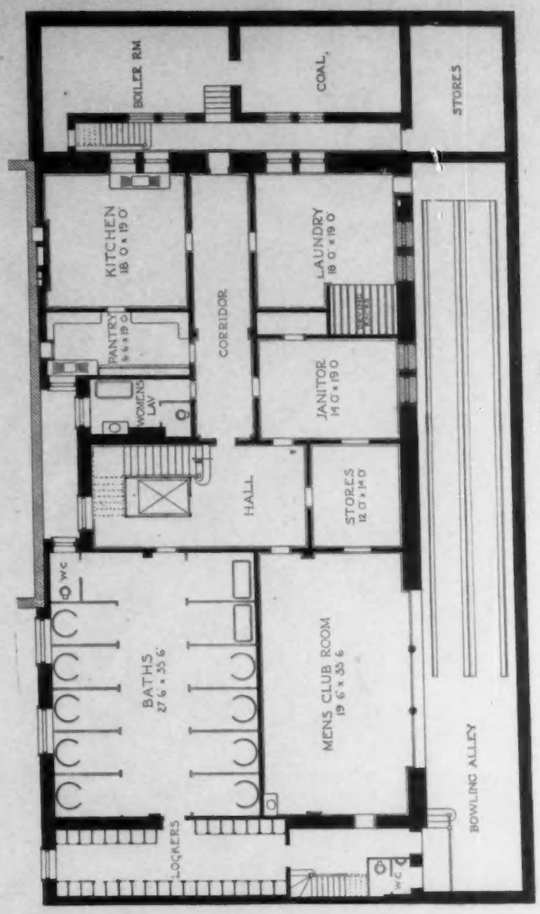
N FOR ST. LUKE'S HOSPITAL, ST. LOUIS, MO.

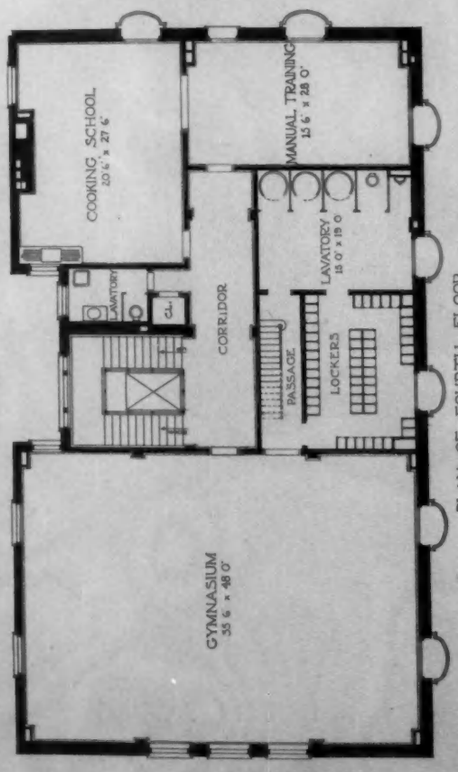
HEO. C. LINK, ARCHITECT.



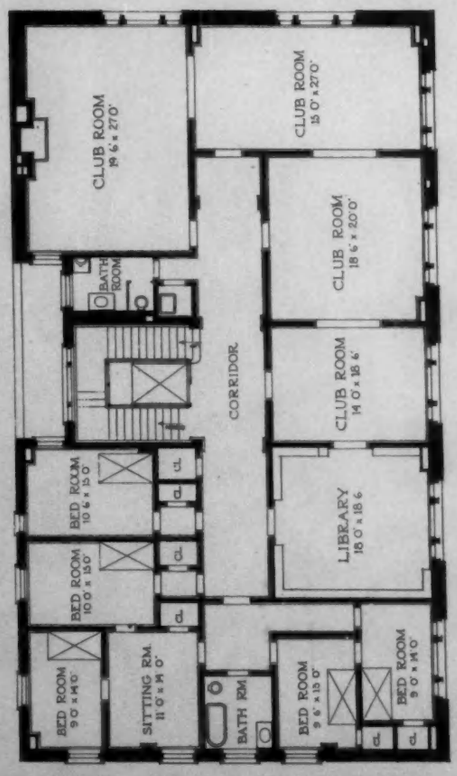
PLAN OF FIRST FLOOR.



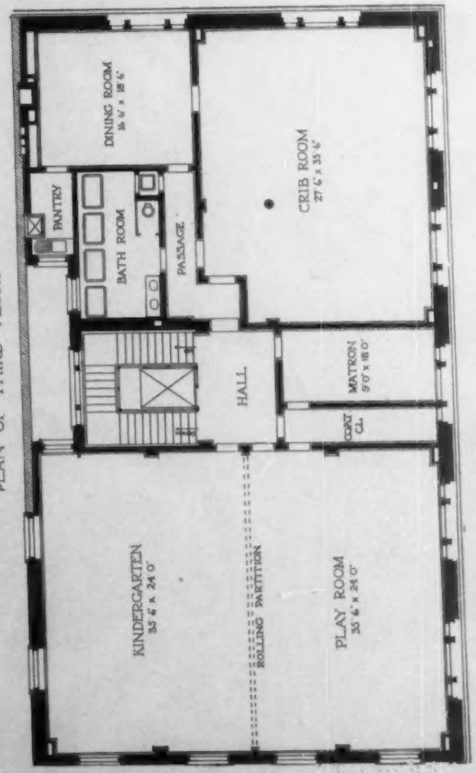
PLAN OF BASEMENT



PLAN OF FOURTH FLOOR.



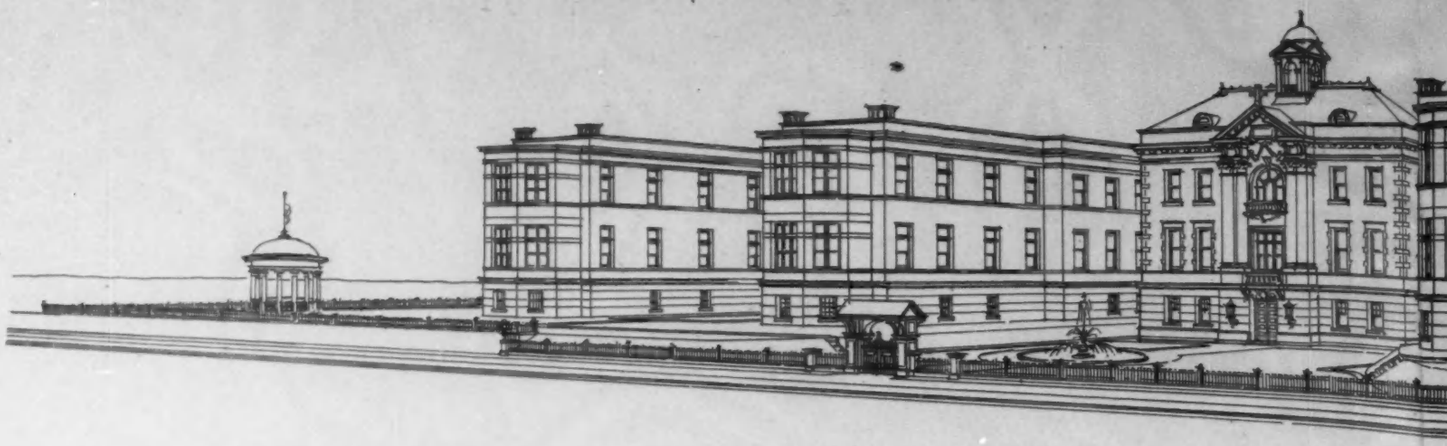
PLAN OF THIRD FLOOR.



PLAN OF SECOND FLOOR.

PLANS, SETTLEMENT HOUSE FOR FIFTH AVENUE BAPTIST CHURCH, NEW YORK CITY.

YORK & SAWYER, ARCHITECTS.



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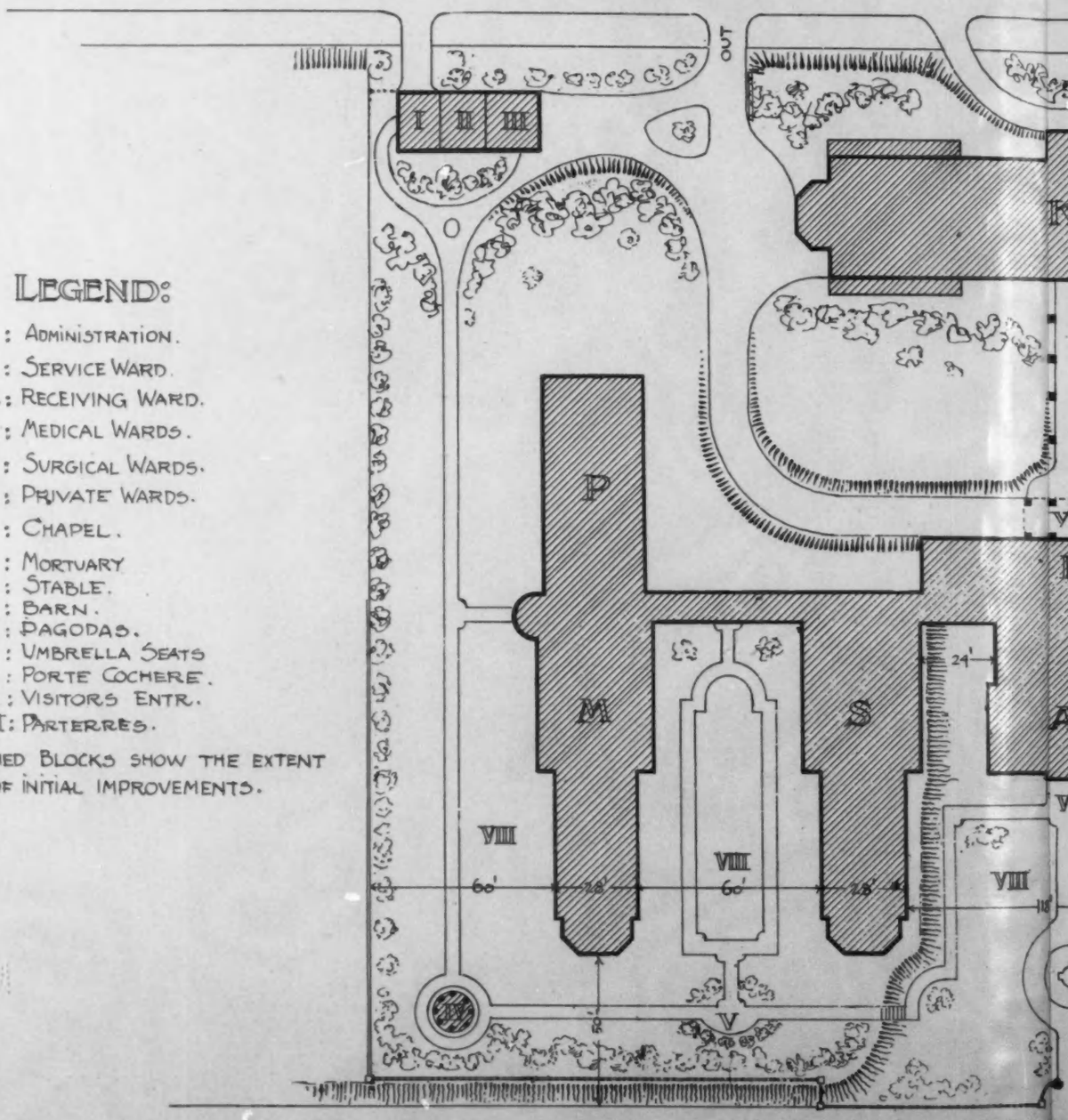


LEGEND:

A : Administration.
K : Service Ward.
R : Receiving Ward.
M : Medical Wards.
S : Surgical Wards.
P : Private Wards.
C : Chapel.

I : Mortuary
II : Stable.
III : Barn.
IV : Pagodas.
V : Umbrella Seats
VI : Porte Cochere.
VII : Visitors Entr.
VIII : Parterres.

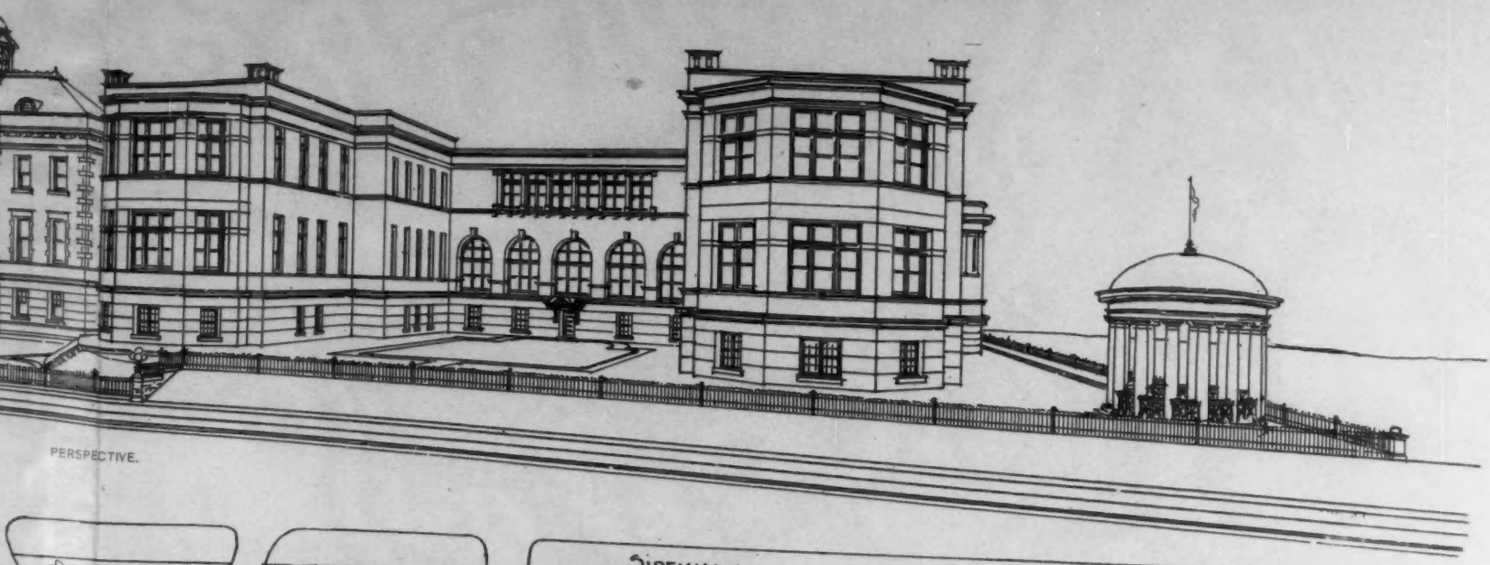
Matched Blocks show the extent of initial improvements.

BLOCK PLAN.

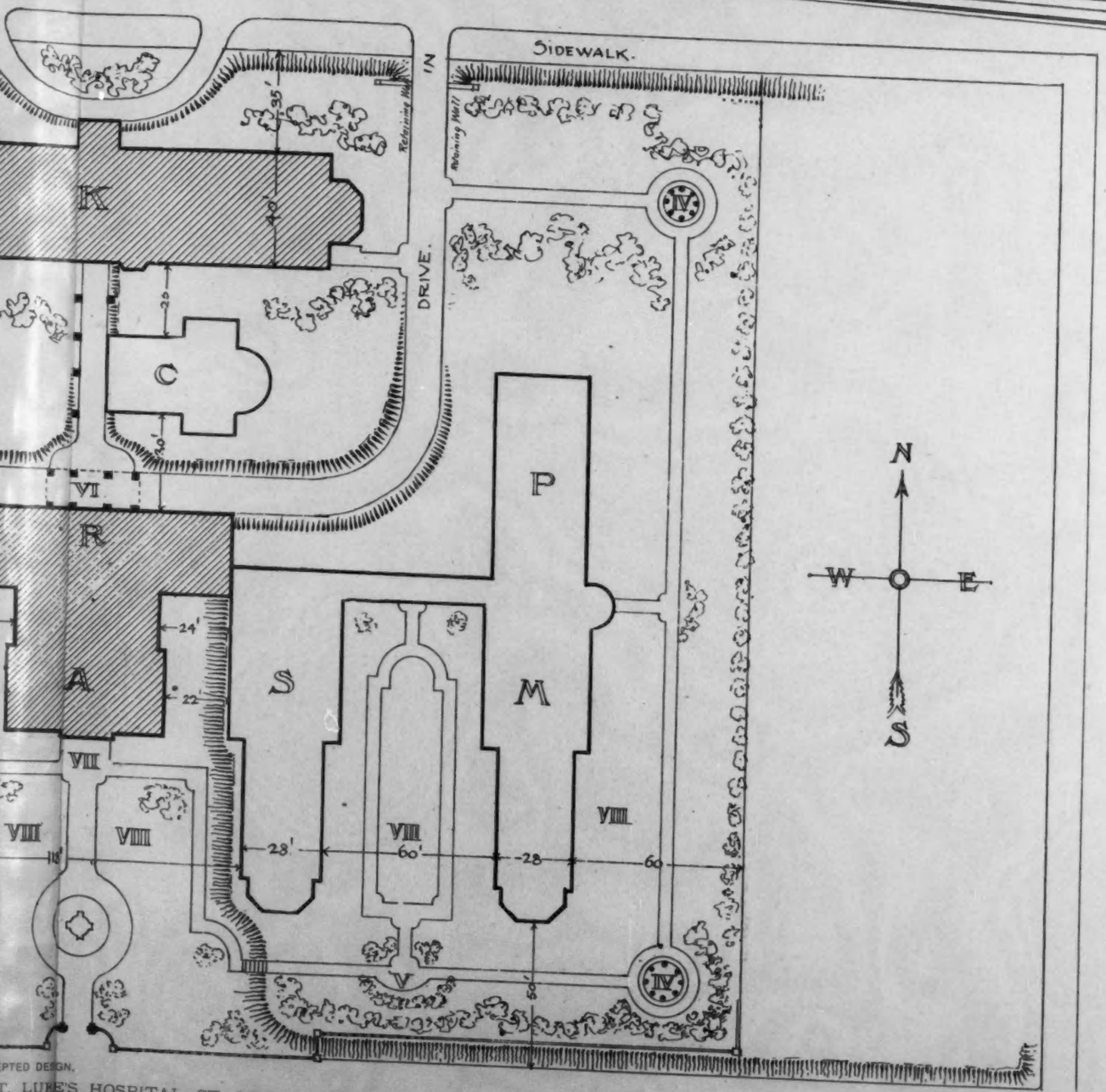
ACCEPTED DESIGN

COMPETITIVE DESIGN FOR ST. LUKE'S

THEO' C. LINK, ARCHI



PERSPECTIVE.

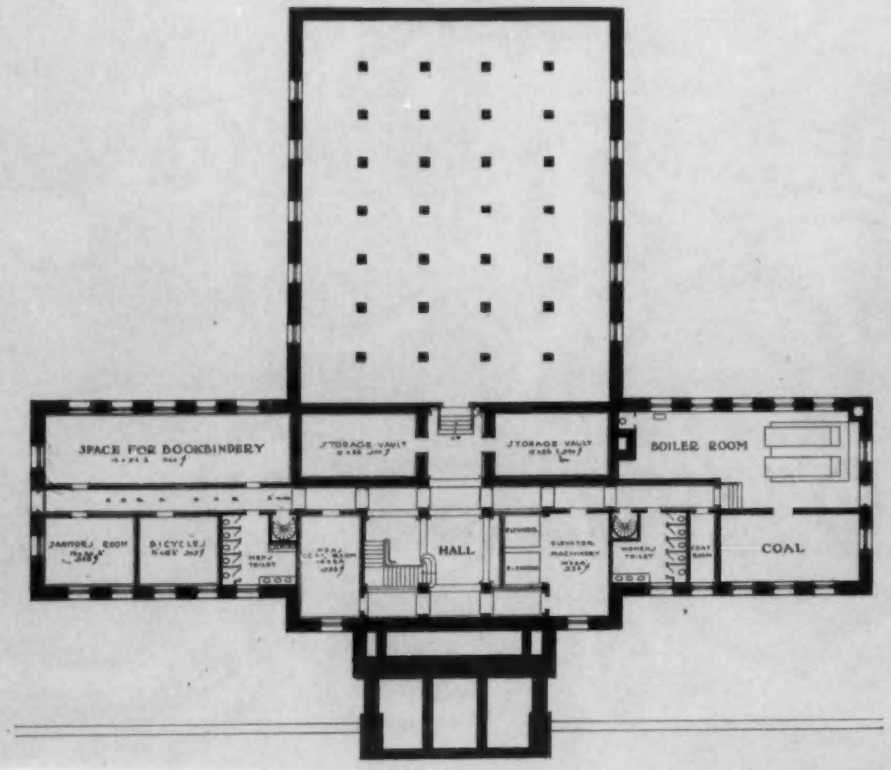


EPTED DESIGN.

T. LUKE'S HOSPITAL, ST. LOUIS, MO.

LINK, ARCHITECT.

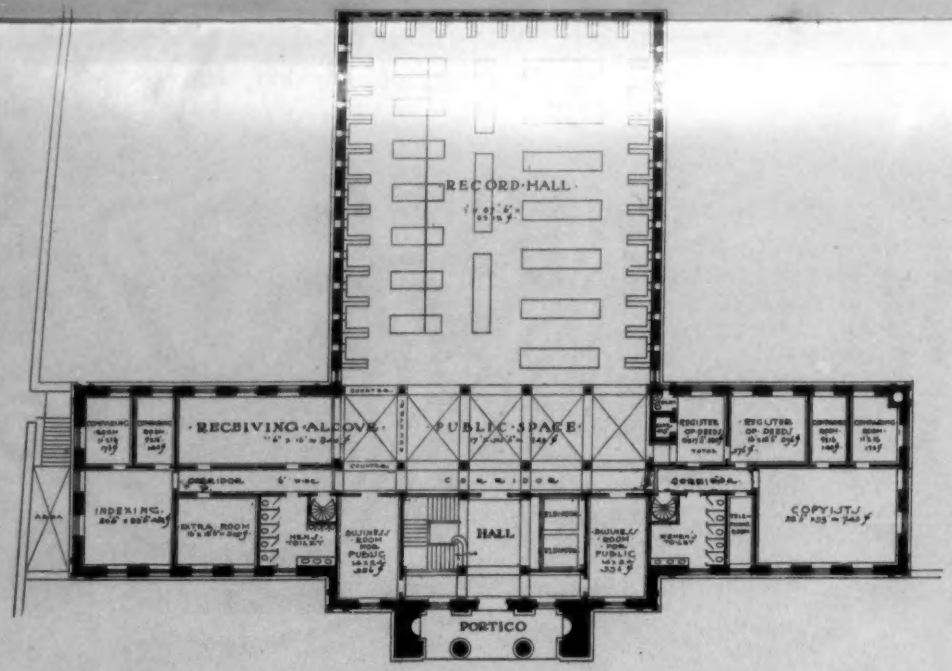
FRONT ELEVATION.



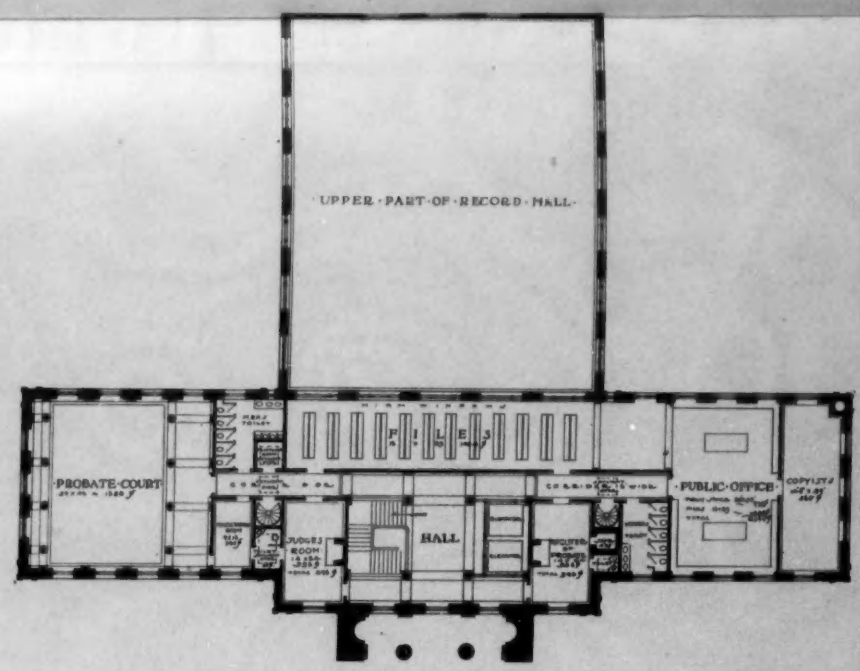
BASEMENT PLAN.

THE BRICK
VOL. II. NO. 4.

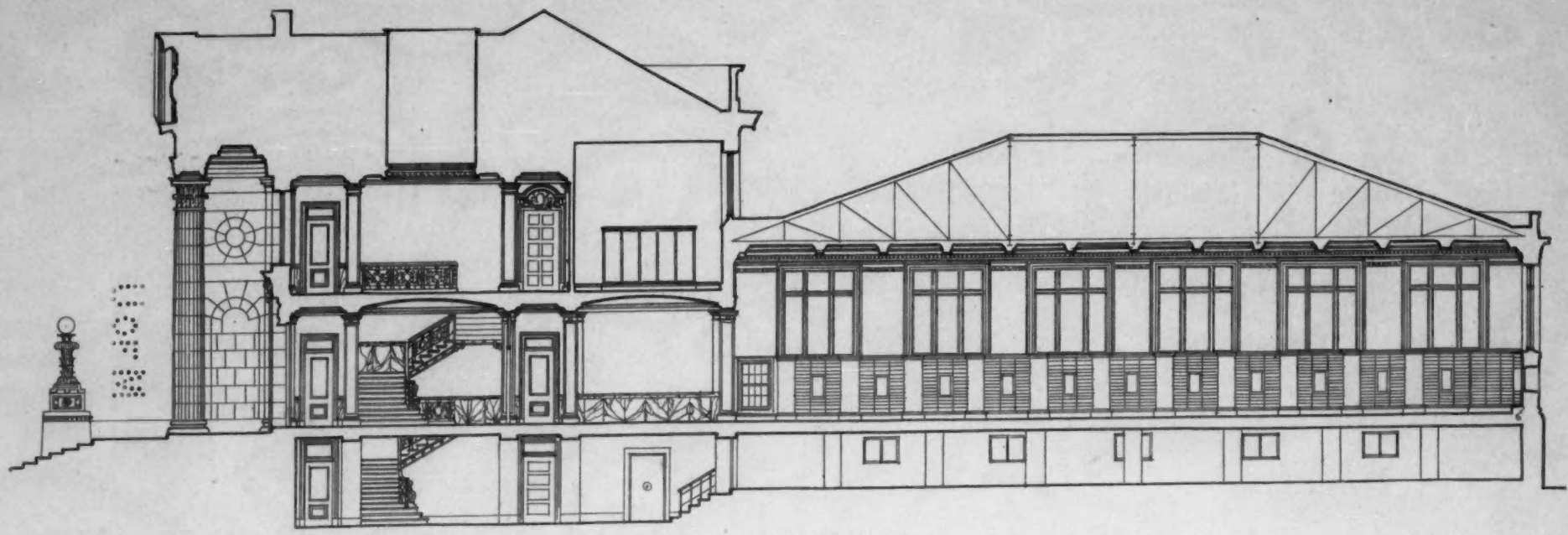
BASEMENT PLAN.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.



SECTION THROUGH RECORD HALL.

ACCEPTED DESIGN.

COMPETITION FOR NORFOLK COUNTY REGISTRY OF DEEDS, DEDHAM, MASS.

PEABODY & STEARNS, ARCHITECTS.

ПОЛЬ

STORE AND APARTMENT BUILDING, 11TH STREET, PHILADELPHIA, PA.

HAZLEHURST & HUCKEL, ARCHITECTS.

SETTLEMENT HOUSE FOR FIFTH AVENUE BAPTIST CHURCH, 10TH AVENUE AND 50TH STREET, NEW YORK CITY.

YORK & SAWYER, ARCHITECTS.

HOUSE 23 WEST 52ND STREET, NEW YORK CITY.

C. H. P. GILBERT, ARCHITECT.

HOUSE FOR HON. WAYNE MACVEAGH, WASHINGTON, D. C.

APPLETON P. CLARK, JR., ARCHITECT.

HOUSE, 1630 LOCUST STREET, PHILADELPHIA, PA.

COPE & STEWARDSON, ARCHITECTS.

THE BRICKBUILDER,
APRIL,
1902.

HOUSE FOR PRIMATES, BRONX PARK, NEW YORK CITY.

HEINS & LA FARGE, ARCHITECTS.